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TRANSACTIONS



Maine State Pomological Society,

FOR THE YEAR 1893.

INCLUDING THE PROCEEDINGS OF THE WINTER MEETING,
HELD IN UNION, DECEMBER 5th AND 6th, 1893.



EDITED BY THE SECRETARY,

D. H. KNOWLTON.

AUGUSTA :

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MAINE STATE POMOLOGICAL SOCIETY.

Transactions for the Year 1893.

REPORT OF THE SECRETARY.

Of the general conditions of fruit culture in the State it is gratifying to note that among land owners there has been the past year an unusual interest in all that appertains to the science and art of raising fruit. There has been a wide-spread call for information on fruit matters, and uniformly when public meetings have been held they have been largely attended by people in search of knowledge. At the public meetings during the fair the "Varieties of Small Fruits Best Adapted to the State" was the general subject under consideration, and it awakened great interest. At the meeting of the executive committee held in Winthrop great interest was shown both in orcharding and small fruits. The State Board of Agriculture at the farmers' institutes, in answer to numerous calls, finds attentive and eager listeners when fruit matters receive consideration. Again the last legislature in answer to our request for an increased stipend, without the slightest objection unanimously doubled the appropriation. These are but a few of the indications of the wide-spread interest which people have in the industry.

The apple crop was a small one, probably not over fifty per cent of an average. Of the causes that brought this about we are in doubt. The blossom was not heavy, and the worms were never more abundant. Then in some parts of the State there were several hail storms, and the disaster of the August rain and wind storm was widespread. Fortunately there were many who had the wisdom to make the most of the misfortune, and following the example of one large orchardist, fed the windfalls to the cows.

The farmer's wife said, "as they couldn't sell the apples, they just put them where they could get more cream."

When the harvest came a large percentage of the apples were wormy or bruised, but at the same time it should not be overlooked that the farmers have received a good sum of money for their apples even this year. The apples helped out in many cases where the other crops were short. One Franklin county orchardist made a price of \$6 per barrel for his No. 1's and \$3 for his No. 2's, and the apples were sold. The grower said he might have had a little more if he had held a little longer. He was well satisfied, however, for he got his price.

DOINGS OF THE SOCIETY.

The first work of the executive committee was to outline the work with reference to the increased appropriation. The premium list was extended about \$100; a cooler for cut flowers was provided; an expert was called in for judging at the fair; and other new work was undertaken. Unfortunately through an oversight of some of the officials only the usual sum of \$500 was actually appropriated for our Society for 1892 and 1893. This made the situation somewhat embarrassing for the committee, but it was decided to carry out the plan so far as it had been arranged for, and also to extend our work in other directions to some extent, and ask the next legislature to provide for the oversight of the last by making good the deficiency. This course seemed to be the wisest under the circumstances, and so far as we are able to learn meets with the approval of the public.

PUBLIC MEETINGS.

The surroundings for the most successful public meeting during the fair are not favorable. This year the restaurant building was occupied for the meeting, and though more comfortable than the wing of the exhibition building, is far from being an ideal place for such a gathering. Then again the officers of the Agricultural Society appoint our meeting the same evening as their annual election. The meeting itself was satisfactory, although the rainstorm prevented the attendance of some who would have enjoyed the programme. So much inquiry had been made concerning the best varieties of small fruits for the State, it was decided to ask our

most prominent fruit growers to make public their own preferences after years of experience. Valuable information was gained, and the results may be found on subsequent pages of the Transactions. It will be found helpful to many people who are groping in darkness at the present time. It was an unexpected pleasure to welcome among us Secretary Sessions of the Massachusetts State Board of Agriculture. His greetings to our people were most cordial, showing that he was in sympathy with all engaged in the pursuit of agriculture. Excellent vocal music was furnished by Mr. A. R. Smilcy.

The executive committee decided to make their fall meeting more than a matter of formal business as heretofore. By invitation of the fruit growers of Winthrop, public meetings were accordingly held in the Town Hall, Winthrop, October 26th. The afternoon session was devoted to the consideration of the general subject of orcharding, conducted by President Pope. The evening session was devoted to the culture of small fruits, Willis A. Luce being the principal speaker. Professor Munson, W. P. Atherton, the Secretary and others took part in the discussions. The fruit growers were invited to make an exhibition of their fruit, and a fine display of fruit was arranged in the hall. Several ladies brought in collections of flowers to adorn the tables, and they were made very attractive to visitors. Excellent music was furnished for the evening meeting under the direction of Charles E. Moore. The executive committee desire at this time to express their full appreciation of the cordial reception accorded to them and others by the good people of Winthrop.

For various reasons it was deemed advisable to hold the winter meeting in the month of December. In this meeting as in recent years we were joined by the State Board of Agriculture. The papers presented were not as many as in former years, but the character of the papers was excellent, and the opportunity for discussion was highly appreciated. By courtesy of Willis A. Luce, an invitation was received from the officers and members of the North Knox Agricultural Society to hold the meeting in Union. The Town Hall was in readiness for the gathering, and at every point the visitors were indebted to our members, Willis A. Luce and Alonzo Butler and others of the beautiful town of Union, for many courtesies and attentions. The town on the first afternoon and evening of our meeting was nearly obscured by the whirling snow-

flakes that danced around the tree-tops and spires and then rushed in furious gusts about the streets. But the next morning the sun rose over a scene of unrivalled beauty. Every twig and tree was sparkling with ice and the face of nature was white and pure as snow could make it. So these gems also sparkled on the trees and shrubs as we turned our backs upon the town, and bade good bye to the many friends we had met. But all the way home we were pleasantly reminded of the thoughtful courtesy that placed at the disposal of each departing guest a bag of choice fruit. The attendance at the meeting was large and enthusiastic, in spite of the bad weather part of the day and evening.

In connection with this meeting there was an exhibition of fruit from various parts of the State for which premiums were offered. The exhibition was a good one and the officers were much gratified at the results. The awards made appear in connection with others in this volume.

ANNUAL EXHIBITION.

Other interests overshadow the fruit to such an extent that as yet we have been unable to induce the State Agricultural Society to hold their exhibition later than the first week in September. It is too early for a good exhibition of fruit, but in consequence of the large numbers of people in attendance at this fair it seems to be the most favorable time for our exhibition. Friendly feelings exist between the two societies, and our business relations have been honorable in every respect. It would be better if we could have a different exhibition room, but here, as in many other situations, it seems wise to make the most of what we have, and pull all the harder somewhere else.

Of the fruit on exhibition it fell far below our average, both in quality and quantity. With the dry weather, prevalence of insects, the frequency of hailstorms and heavy gales it was quite remarkable to see as many as were spread out upon the tables. No fruit this year was shown from Franklin, York, Hancock, Washington, Aroostook or Piscataquis counties.

The flower exhibit was large, but in quality not up to former years. Growers were enthusiastic, but declared that there were so many difficulties that they had little courage to make any exhibition. We were thankful, however, that they came and helped us make up our exhibition. The flowers form the most attractive

feature of our exhibitions, and we should be glad to have the florists of our State generally join hands with us and aid us in cultivating the love of flower culture.

The window garden department, in which the children of Lewiston and Auburn showed the plants they had grown, was one of the pleasing features of the exhibition. The plants showed more care than those brought in the year before. This is the second year in which the society has given plants and premiums to the children. The object is two-fold—to teach children in a pleasing way to love the plants and to care for them. Hundreds of the little folks came to look upon the plants, and among them were many older people. The enthusiasm of the children was contagious and the pleasures of the exhibition and the lessons they learned will not soon be forgotten. We are confident that this department is one of the most useful.

The wild flower exhibit was not as large as we could wish, and we regret that there were not a larger number of exhibitors, but at the same time there are many indications of greater interest in the study of botany, and it can not be that the teachers in the State are not in sympathy with our work in this direction. There was only one general class exhibit. This was from the Sanford High School, and the excellence of the specimens and the accuracy of the analyses deserve special mention. The individual collections of pressed specimens were excellent. It will be a wise policy for our society to extend this work in the future.

The awards made appear in another place, to which reference is made.

Mr. Elijah A. Wood of Newton, Mass., acted as our judge on fruit and flowers. His work was generally acceptable to exhibitors. It is the belief of most of our members that a judge should always be employed by the Society, and there can be little doubt but good results will follow.

OFFICERS FOR 1894.

President.

CHARLES S. POPE, Manchester.

Vice Presidents.

S. H. DAWES, Harrison.

D. P. TRUE, Leeds Center.

Secretary.

D. H. KNOWLTON, Farmington.

Treasurer.

CHARLES E. WHEELER, Chesterville.

Executive Committee.

The President and Secretary, *ex-officio*; A. E. Andrews, Gardiner; W. M. Munson, Orono; J. W. True, New Gloucester.

Trustees.

Androscoggin County	Charles L. Emerson, South Turner.
Aroostook	J. W. Dudley, Castle Hill.
Cumberland	S. R. Sweetser, Cumberland Center.
Franklin	M. C. Hobbs, West Farmington.
Hancock	F. H. Moses, Bucksport.
Kennebec	E. A. Lapham, Pittston.
Knox	Alonzo Butler, Union.
Lincoln	H. J. A. Simmons, Waldoboro'.
Oxford	C. H. George, Hebron.
Penobscot	C. A. Arnold, Arnold.
Piscataquis	A. W. Gilman, Foxcroft.
Sagadahoc	A. P. Ring, Richmond.
Somerset	James S. Hoxie, North Fairfield.
Waldo	D. B. Johnson, Freedom.
Washington	M. S. Springer, Danforth.
York	John C. Small, Cornish.

Member of Experiment Station Council.

D. H. Knowlton, Farmington.

Committee on Nomenclature.

Z. A. Gilbert, North Greene; D. P. True, Leeds Centre; C. M. Weston, Belgrade.

Committee on New Fruits.

Willis A. Luce, South Union; T. M. Merrill, West Gloucester; J. W. True, New Gloucester.

MEMBERS OF THE SOCIETY.

NOTE.—Any errors or changes of residence should be promptly reported to the Secretary. Members will also confer a favor by furnishing the Secretary with their full Christian names where initials only are given.

LIFE MEMBERS.

Andrews, A. Emery	Gardiner	Hackett, E. C	West Gloucester
Andrews, Charles E.....	Auburn	Hanscom, John.....	Saco
Arnold, C. A.....	Arnold	Harlow, S. C.	Bangor
*Atherton, H. N.....	Hallowell	*Harris, N. C.....	Auburn
Atherton, Wm. P.....	Hallowell	Harris, N. W.	Auburn
Atkins, Charles G.....	Bucksport	Harris, William M.	Auburn
Atwood, Fred.....	Winterport	Harvey, F. L.	Orono
Averill, David C.	Temple	*Hersey, T. C.....	Portland
Bailey, W. G.	Freeport	Hobbs, M. Curtis	West Farmington
Bennoch, John E.	Orono	Hoffses, Elmas.....	Warren
Boardman, Samuel L.	Angusta	Hoxie, James S.	North Fairfield
Briggs, D. J.....	South Turner	Hoyt, Mrs. Francis	Winthrop
Briggs, John	Turner	Ingalls, Henry.....	Wiscasset
Burr, John	Freeport	Jackson, F. A.	Winthrop
Butler, Alonzo.....	Union	*Jewett, George	Portland
*Carter, Otis L.	Etna	Johnson, Isaac A.	Auburn
Chase, Henry M., 14 Quincy St., Portland		Jordan, Francis C.	Brunswick
Chase, Martin V. B. ..	Augnsta	Kenniston, E. H.	Arnold
*Clark, Eliphilet	Portland	Knowlton, D. H.	Farmington
Cole, Horatio G.....	Boston, Mass	Lapham, E. A.	Pittston
Crafts, Moses	Auburn	Lombard, Thurston M.	Auburn
*Crosby, William C.....	Bangor	*Low, Elijah	Bangor
Dana, Woodbury S.	Portland	*Low, S. S.	Bangor
Dawes, S. II.....	Harrison	Luce, Willis A.	South Union
DeRocher, Peter	Bradenton, Fla	McLaughlin, Henry	Bangor
Dirwanger, Joseph A.	Portland	Merrill, T. M.	West Gloucester
Dunham, W. W.....	North Paris	*Metcalf, M. J.	Monmouth
Dyer, Milton	Cape Elizabeth	Moody, Charles H.	Turner
*Emerson, Albert	Bangor	Moore, William G.	Monmouth
Emerson, Charles L.	South Turner	Moor, F. A.	Waterville
Farnsworth, B. B.	Portland	Morton, J. A.	Bethel
Frost, Oscar F.	Monmonth	Morton, William E.	Portland
*Gardiner, Robert H.....	Gardiner	*Noyes, Albert	Bangor
Gardiner, Robert H.....	Boston, Mass	Perley, Chas. I. Seward's (Vassalboro')	
George, C. H.	Hebron	Pope, Charles S.	Manchester
Gilbert, Z. A.	North Greene	Pulsifer, D. W.	Poland
*Godfrey, John E.	Bangor	Purington, E. F.	West Farmington
Gurney, Lemuel... ..	Hebron	*Richards, F. G.	Gardiner

*Deceased.

LIFE MEMBERS—CONCLUDED.

Richards, John T.	Gardiner	Strattard, Mrs. A. B.	Monroe
*Richardson, J. M.	Gardiner	Sweetser, S. R.	Cumberland Center
Ricker, A. S.	Turner	*Taylor, Joseph	Belgrade
Roak, George M.	Auburn	Taylor, Miss L. L., (Lakeside)	Belgrade
Robinson, Henry A.	Foxcroft	Thomas, William W., Jr.	Portland
Rolfe, Samuel	Portland	Thomas, D. J.	North Auburn
Sawyer, Andrew S.	Cape Elizabeth	Tilton, William S.	Boston, Mass
Sawyer, George B.	Wiscasset	True, Davis P.	Leeds Center
*Shaw, Stillman W.	West Auburn	True, John W.	New Gloucester
Simmons, H. J. A.	Waldoboro'	Varnoy, James A.	The Dalles, Oregon
Skillings, C. W.	North Anburn	Vickery, James.	Portland
*Smith, Alfred.	Mommouth	Vickery, John.	Auburn
Smith, Henry S.	Mommouth	Wade, Patrick.	Portland
Starrett, L. F.	Warren	Walker, Charles S.	Peru
Stetson, Henry	Auburn	Waterman, Willard H.	East Auburn
*Stetson, Isaiah	Bangor	*Weston, James C.	Bangor
Stilphen, Asbury C.	Gardiner	Wharff, Charles S.	Gardiner
Stanley, Charles	Wintrop	Wheeler, Charles E.	Chesterville
Stanley, O. E.	Wintrop	Whitney, Edward K.	Harrison
Staples, G. K.	Temple	Woodard, Mrs. S. M.	Gardiner
Strout, S. F.	West Falmouth	Woodman, George W.	Portland

ANNUAL MEMBERS, 1893.

Abbott, Mrs. L. F.	Lewiston	Merrow, J. H.	South Smithfield
Allen, W. H.	Augusta	Munson, W. M.	Orono
Bartlett, B. W.	East Dixmont	Nelson, O. C.	Upper Gloucester
Bennett, Charlie A.	Sanford	Nowell, F. E.	Fairfield
Chandler, Mrs. B. W.	Freeport	Ricker, W. B.	East Auburn
Cummings, Mrs. Anthony.	Auburn	Ring, A. P.	Riehmond Corner
Dudley, J. W.	Castle Hill	Snow, G. W.	Newburg
Eastman, A. A.	Dexter	Stevens, Ernest.	Freeport
Grant, Mrs. Benson.	Lewiston	Stoddard, Edith M.	Belfast
Grover, Mrs. F. D.	Bean's Corner	Townsend, Mrs. B. T.	Freeport
King, A. R.	North Monmouth	Waterman, Mrs. C. E.	East Auburn
Larrabee, O. L.	West Levant	Wheeler, J. B.	Corinth
Lemont, J. M.	West Bath	Woodside, E. G.	Lewiston
Mansur, A. M.	Jaeckson		

ANNUAL MEMBERS, 1894.

Cobb, J. O.	Union	Robbins, R. B.	Union
Jndkins, Charles II.	Chesterville	Tolman, I. B.	Union
Munson, W. M.	Orono	Willard, S. D.	Geneva, N. Y

TREASURER'S REPORT.

Statement of the Financial Condition of the Maine State Pomological Society, Ending December 1, 1893.

RECEIPTS.

State bounty.....	\$538 88
Loans	450 00
State Agricultural Society .	500 00
Interest on permanent fund	32 00
Life membership .	50 00
Annual membership.....	26 00
	<hr/>
	\$1,596 88

EXPENDITURES.

A. S. Ricker, Treasurer, for 1892, balance due him	\$30 31
Salary and expenses	10 40
Loans	500 00
Expense of Executive Committee and Treasurer.....	217 39
Plants for Children's Department, State Fair	21 44
Cooler for cut flowers at State Fair.....	55 00
Judge at State Fair	30 00
Care of hall and trucking	20 60
Printing, etc.....	58 12
Interest and discount on loans	18 12
Premiums at State Fair	542 85
Cash on hand	92 65
	<hr/>
	\$1,596 88

FINANCIAL CONDITION AT DATE.

ASSETS.

Bounty due from the State.	\$500 00
Property owned by Society.....	200 00
Permanent fund.....	719 73
Cash on hand	92 65
	<hr/>
	\$1,512 38

LIABILITIES.

Due on loan, First National Bank of Farnington.....	\$300 00
Outstanding orders	259 03
	<hr/>
	\$559 03

PERMANENT FUND.**CREDIT.**

By fees of 109 life members to December 31, 1892.....	\$1,090 00
fees of life members in 1893	50 00
	<hr/>
	\$1,140 00

DEBIT.

To deposit in Wiscasset Savings Bank.	\$ 19 73
four shares First National Bank of Farmington	400 00
two shares Merchant's National Bank, Gardiner.....	200 00
one share Farmington Water Company	100 00
balance due permanent fund	420 27
	<hr/>
	\$1,140 00

CHARLES E. WHEELER, Treasurer.

UNION, December 6, 1893.

List of Premiums Awarded at the Annual Exhibition.

For best general exhibition of apples: C. A. Arnold, Arnold, first, \$15; C. I. Perley, Cross Hill, second, \$10; S. H. Dawes, Harrison, third, \$6.

For best exhibition of apples not named in premium list: Alonzo Butler, Union, first, \$5; F. E. Nowell, Fairfield, second, \$3.

For best exhibition of apples grown in Androscoggin county: D. P. True, Leeds Center, first, \$8; D. J. Briggs, South Turner, second, \$6.

For same in Cumberland county: J. W. True, New Gloucester, first, \$8; S. H. Dawes, second, \$6; S. R. Sweetser, Cumberland Center, third, \$3.

For same in Kennebec county: E. A. Lapham, Pittston, first, \$8; C. I. Perley, second, \$6.

For same in Knox county: Alonzo Butler, first, \$8; Willis A. Luce, South Union, second, \$6.

For same in Oxford county: C. H. George, Hebron, first, \$8; Lemuel Gurney, Hebron, second \$6;

For same in Penobscot county: O. L. Larabee, West Levant, first, \$8; G. W. Snow, Newburg, second, \$6; H. W. Brown, Newburg, third, \$3.

For same in Sagadahoc county: J. M. Lemont, West Bath, first, \$8; A. P. Ring, Richmond Corner, second, \$6.

For same in Somerset county: J. S. Hoxie, North Fairfield, first, \$8; F. E. Nowell, second, \$6; J. H. Merrow, South Smithfield, third, \$3.

For same in Waldo county: B. W. Bartlett, (Monroe) East Dixmont, first, \$8; A. M. Mansur, (Jackson) East Dixmont, second, \$6.

SINGLE PLATES.

Baldwins: J. Pope, Manchester, first, \$5; C. I. Perley, second, \$3; S. H. Dawes, third, \$2.

- Gravenstein: J. Pope, first, \$3; C. A. Arnold, second, \$2.
Northern Spy: C. I. Perley, first, \$3; S. H. Dawes, second, \$2; Willis A. Luce, third, \$1.
Rhode Island Greenings: J. H. Merrow, first, \$5; C. I. Perley, second, \$3; C. A. Arnold, third, \$2.
Roxbury Russets: Lemuel Gurney, first, \$3; C. H. George, second, \$2; Alonzo Butler, third, \$1.
Tompkins King: S. H. Dawes, first, \$3; G. W. Snow, second, \$2; C. I. Perley, third, \$1.
Yellow Bellflower: C. A. Arnold, first, \$3; G. W. Snow, second, \$2; A. P. Ring, third, \$1.
Alexander: C. H. George, first, \$1; C. A. Arnold, second, 50c.
American Golden Russet: T. M. Lombard, Auburn, first, \$1; E. A. Lapham, second, 50c.
Ben Davis: S. R. Sweetser, first, \$1; J. W. True, second, 50c.
Deane: J. Pope, second, 50c.
Duchess of Oldenburg: S. H. Dawes, first, \$1; J. S. Hoxie, second, 50c.
Early Harvest: Willis A. Luce, first, \$1.
Fallawater: C. A. Arnold, first, \$1; C. I. Perley, second, 50c.
Fall Harvey: C. H. George, first, \$1; C. I. Perley, second, 50c.
Fameuse: S. R. Sweetser, first, \$1; F. E. Nowell, second, 50c.
Garden Royal: E. G. Woodside, Lewiston, first, \$1; S. H. Dawes, second, 50c.
Granite Beauty: C. I. Perley, first, \$1.
Hubbardston Nonsuch: E. A. Lapham, first, \$1; T. M. Lombard, second, 50c.
Jewett's Fine Red: C. I. Perley, first, \$1; S. R. Sweetser, second, 50c.
King Sweeting; F. E. Nowell, first, \$1; C. I. Perley, second, 50c.
Large Yellow Bough: E. A. Lapham, first, \$1; S. H. Dawes, second, 50c.
McIntosh Red: C. H. George, first, \$1; S. R. Sweetser, second, 50c.
Milding: C. I. Perley, first, \$1.
Mother: S. R. Sweetser, first, \$1.
Munson Sweet: S. H. Dawes, first, \$1.
Peck's Pleasant: J. S. Hoxie, first, \$1; C. H. George, second, 50c.

Pomme Royale: C. H. George, first, \$1; J. Pope, second, 50c.
 Porter: Willis A. Luce, first, \$1; E. A. Lapham, second, 50c.
 Pound Sweet: S. H. Dawes, first, \$1; C. I. Perley, second, 50c.
 President: F. E. Nowell, first, \$1.
 Primate: C. I. Perley, first, \$1; J. S. Hoxie, second, 50c.
 Red Astrachan: J. S. Hoxie, first, \$1; J. H. Merrow, second, 50c.
 Rolfe: S. R. Sweetser, first, \$1.
 Somerset: F. E. Nowell, first, \$1; S. R. Sweetser, second, 50c.
 Stark: J. S. Hoxie, first, \$1; J. W. True, second, 50c.
 Starkey: J. Pope, first, \$1; C. I. Perley, second, 50c.
 Talman's Sweet: F. E. Nowell, first, \$1; Alonzo Butler, second, 50c.
 Tetofsky: J. S. Hoxie, first, \$1.
 Wagener: S. H. Dawes, first, \$1; T. M. Lombard, second, 50c.
 Wealthy: J. W. True, first, \$1; S. R. Sweetser, second, 50c.
 William's Favorite: J. S. Hoxie, first, \$1; J. H. Merrow, second, 50c.
 Winthrop Greening: A. R. King, North Monmouth, first, \$1; E. A. Lapham, second, 50c.

Class 2—PEARS.

For best general exhibition of pears: S. H. Dawes, first, \$10; D. P. True, second, \$8; C. I. Perley, third, \$5.
 Clapp's Favorite: W. B. Ricker, East Auburn, first, \$3; Lemuel Gurney, second, \$2.
 Bartlett: S. H. Dawes, first, \$3; C. I. Perley, second, \$2.
 Belle Lucrative: C. I. Perley, second, 50c.
 Beurre d' Anjou: T. M. Lombard, first, \$1; C. H. George, second, 50c.
 Beurre Superfin: D. P. True, first, \$1.
 Beurre Diel: D. J. Briggs, first, \$1.
 Buffum: D. P. True, first, \$1; C. I. Perley, second, 50c.
 Doyenne Boussock: S. H. Dawes, first, \$1; C. I. Perley, second, 50c.
 Duchesse d' Angouleme: Alonzo Butler, first, \$1; S. H. Dawes, second, 50c.
 Goodale: C. I. Perley, first, \$1; S. H. Dawes, second, 50c.
 Howell: J. S. Hoxie, first, \$1; S. H. Dawes, second, 50c.

Lawrence : Lemuel Gurney, first, \$1 ; S. H. Dawes, second, 50c.
 Louise Bonne de Jersey : D. P. True, first, \$1 ; S. H. Dawes, second, 50c.

Seckel : D. P. True, first, \$1 ; C. I. Perley, second, 50c.
 Sheldon : S. H. Dawes, first, \$1 ; C. I. Perley, second, 50c.
 Souvenir du Congress : D. P. True, first, \$1.

Class 3—GRAPES.

Collection open air grapes : S. H. Dawes, first, \$5.

Class 4—PLUMS.

For best general exhibition plums : Willis A. Luce, first, \$6 ;
 S. H. Dawes, second, \$4.

Bavay's Green Gage : Willis A. Luce, first, \$1.

Bradshaw : Willis A. Luce, first, \$1 ; Lemuel Gurney, second, 50c.

Green Gage : Lemuel Gurney, first, \$1 ; F. E. Nowell, second, 50c.

Prince's Imperial Gage : T. M. Lombard, first, \$1.

Red Gage : F. E. Nowell, first, \$1 ; D. P. True, second, 50c.

Jefferson : J. W. True, first, \$1.

Lawrence : F. E. Nowell, first, \$1 ; T. M. Lombard, second, 50c.

Lombard : D. P. True, first, \$1 ; Willis A. Luce, second, 50c.

McLaughlin : A. A. Eastman, Dexter, first, \$1 ; Willis A. Luce, second, 50c.

Moore's Arctic : Willis A. Luce, first, \$1.

Quackenbos : W. A. Luce, first, \$1.

Smith's Orleans : T. M. Lombard, first, \$1.

Yellow Egg : J. W. True, first, \$1 ; Lemuel Gurney, second, 50c.

Class 5—FRUITS IN GLASS.

For specimens of fruits in preserving fluid :

McLaughlin Plums : A. A. Eastman, first, 50c.

Shaffers Raspberries : A. A. Eastman, first, 50c.

Industry Gooseberries : A. A. Eastman, first, 50c.

Class 6—Miscellaneous Articles, Canned Fruit, Preserves, Etc.

For best variety canned fruits, preserves, etc.: Mrs. Annie S. Corbett, Farmington, first, \$8; Mrs. Benson Grant, Lewiston, second, \$5.

Canned Blackberries: Mrs. D. P. True, Leeds Center, first, 50c.; Mrs. Benson Grant, second, 25c.

Canned Blueberries: Mrs. Benson Grant, first, 50c.

Canned Cherries: Mrs. D. P. True, first, 50c.

Canned Peaches: Mrs. Annie S. Corbett, first, 50c.

Canned Pears: Mrs. Annie S. Corbett, first, 50c.

Canned Plums: Mrs. Benson Grant, first, 50c.

Canned Quinces: Mrs. Annie S. Corbett, first, 50c.

Canned Raspberries: Mrs. Annie S. Corbett, first, 50c.; Mrs. Benson Grant, second, 25c.

Canned Strawberries: Mrs. D. P. True, first, 50c.; Mrs. Benson Grant, second, 25c.

Canned Tomatoes: Mrs. Benson Grant, first, 50c.

Preserved Apples: Miss E. B. Butler, Union, first, 50c.

Preserved Currants: Mrs. Annie S. Corbett, first, 50c.; Miss E. B. Butler, second, 25c.

Preserved Cherries: Mrs. Annie S. Corbett, first, 50c.; Miss E. B. Butler, second, 25c.

Preserved Pears: Miss E. B. Butler, first, 50c.

Preserved Quinces: Mrs. Annie S. Corbett, first, 50c.

Preserved Raspberries: Miss E. B. Butler, first, 50c.

Preserved Strawberries: Miss E. B. Butler, first, 50c.; Mrs. D. P. True, second, 25c.

Assorted Pickles: Mrs. Benson Grant, first, 50c.; Mabel E. Grover, Bean's Corner, second, 25c.

Tomato Catsup: Mrs. Benson Grant, first, 50c.

For Best Collection Apple Jellies: Mrs. Benson Grant, first, \$2; Mrs. F. D. Grover, Bean's Corner, second, \$1.

Apple Jelly: Mrs. S. R. Sweetser, (Red Astrachan) first, \$1; Mrs. Benson Grant, second, 50c.

Crab Apple Jelly: Mrs. Benson Grant, first, 50c.; Mrs. L. F. Abbott, Lewiston, second, 25c.

Currant Jelly: Mrs. Annie S. Corbett, first, 50c.; Mrs. Benson Grant, second, 25c.

- Quince Jelly: Mrs. Benson Grant, first, 50c.
Raspberry Jelly: Mrs. Benson Grant, first, 50c.; Mrs. L. F. Abbott, second, 25c
Rhubarb Jelly: Mrs. L. F. Abbott, first, 50c.
Strawberry Jelly: Mrs. L. F. Abbott, first, 50c.
Maple Syrup: C. H. George, first, 50c; Lemuel Gurney, second, 25c.
Maple Sugar: Lemuel Gurney, gratuity, 50c.
Gooseberry Jelly: Mrs. L. F. Abbott, gratuity, 50c.

Class 7—FLOWERS.

For best display Cut Flowers: Charles S. Walker, Peru, first, \$10; Mrs. B. T. Townsend, Freeport, second, \$8; Mrs. Charles Stanley, Winthrop, third, \$5.

Exhibition cut flowers grown by girl or boy under 15: Ernest Stevens, Freeport, first, \$4; Arthur H. Corbett, Farmington, second, \$2.

Roses: John Burr, Freeport, first, \$5.

Dahlias: Mrs. Chas. Stanley, first, \$2.

Carnations: Mrs. B. W. Chandler, Freeport, first, \$2.

Asters: Mrs. B. W. Chandler, first, \$1; Mrs. Chas. Stanley, second, 50c.

Zinnias: Mrs. Francis Hoyt, Winthrop, first, \$1; Mrs. Chas. Stanley, second, 50c.

Phlox Drummondii: Mrs. Chas. Stanley, first, \$1; Mrs. B. T. Townsend, second, 50c.

Stocks: Mrs. B. W. Chandler, first, \$1; Mrs. Francis Hoyt, second, 50c.

Balsams: Mrs. Francis Hoyt, first, \$1.

Petunias: Mrs. Chas. Stanley, first, \$1; Mrs. B. T. Townsend, second, 50c.

Verbenas: Mrs. Chas. Stanley, first, \$1; Mrs. Francis Hoyt, second, 50c.

Vase of Cut Flowers: Mrs. Charles Stanley, first, \$3; Mrs. Francis Hoyt, second, \$2; Mrs. Annie S. Corbett, third, \$1.

Floral Design (amateur): Mrs. Lizzie M. Walker, Peru, first, \$5; Mrs. Chas. Stanley, second, \$3.

Floral Wreath: Mrs. Chas. Stanley, first, \$2.

Dish of Cut Flowers: Mrs. Annie S. Corbett, first, \$2; Mrs. Anthony Cummings, Auburn, second, \$1.

Basket of Cut Flowers: Mrs. Annie S. Corbett, first, \$2; Edward C. Pope, Manchester, second, \$1.

Greenhouse Plants: W. G. Bailey, Freeport, first, \$15.

Pot Plants: Mrs. B. W. Chandler, first, \$10; Mrs. Anthony Cummings, second, \$8.

Exhibition of Ferns: W. G. Bailey, first, \$3.

Exhibition of Geraniums: Mrs. Anthony Cummings, first, \$2.

Exhibition of Begonias: W. G. Bailey, first, \$2.

Dracæna: W. G. Bailey, first, 50c.

Double Geranium: Mrs. Anthony Cummings, second, 25c.

Single Geranium: Mrs. Anthony Cummings, second, 25c.

Foliage Begonia: W. G. Bailey, first, 50c.

Flowering Begonia: W. G. Bailey, first, 50c.; Mrs. B. W. Chandler, second, 25c.

Carnation: Mrs. Anthony Cummings, first, 50c.

Ever-Blooming Rose: Mrs. Anthony Cummings, first, \$1.

Single Pot Plant: Mrs. Anthony Cummings, first, \$2.

Climbing Plant, on trellis: Mrs. Anthony Cummings, first, \$2.

Cut Wild Flowers: Mrs. C. E. Waterman, East Auburn, first, \$3.

Pressed Wild Flowers: Edith M. Stoddard, Belfast, first, \$3; F. L. Varney, East Lowell, second, \$2; Charlie A. Bennett, Sanford, third, \$1

Collection Pressed Wild Flowers made by High School: Sanford High School, O. Howard Perkins, Principal, first, Household Microscope.

WINDOW GARDEN DEPARTMENT.

Coleus. First premiums: Ernest Tainter, Hattie Emerson, Ethel Payson, Ethna Parker, Letitia Frost, Auburn; Frank Crowley, Annie Rawstron, Nancy Rawstron, Madge Lane, Elma Soule, Lewiston, 30 cents each.

Second Premiums: Allie Bearce, Bertie Ward, Carrol Wilcox, Lena Bailey, John Thomas, Auburn; Flossie Smith, Nellie Farnham, Laura M. Webster, Lewiston, 20 cents each.

Heliotrope. First Premiums: Laura Cobb, Thomas Chase, Auburn; Emma Reichel, Beulah Towle, Lewiston, 30 cents each.

Second premiums: Theo. Lothrop, Arthur Hayes, Lewiston, 20 cents each.

Geraniums. First premiums: Fannie Harlow, Anne Pratt, Ethel Burleigh, Charlie Lowell, Margie Murphy, Lizzie Briggs,

Belle Jordan, Harry Prince, Maud Stearns, Lila Yeaton, Earle Towle, Edith Warren, Amy Cushman, Auburn; Charles Saunders, Eugene Harville, Harry Hackett, Angie Keene, Eva Williams, Chandler Barron, Guy Dow, Sarah Stuart, George Sykes, Lillian Soule, Fred Rowe, John Joyce, Sadie Scott, Lewiston, 30 cents each.

Second premiums: Robin Barlow, Mary Stetson, Flossie Sanborn, Angie Welch, Sadie Johnson, Auburn; Winnifred Thompson, Grace Mills, Bertha Rideout, Lewiston, 20 cents each.

Composition about care of plant received: Lillian M. Soule, Lewiston, St. Nicholas Magazine, 1 year, \$2.75; Mable Pulsifer, second; Florence Pulsifer, Auburn, third.

List of Premiums Awarded at the Winter Meeting, Held in Union, December 5th and 6th, 1893.

General exhibition apples: G. K. Staples, Temple, \$5; Charles S. Pope, Manchester, \$4; Alonzo Butler, Union, \$3.

Best Plate American Golden Russets: Charles H. Judkins, Chesterville, \$1; J. O. Cobb, Union, 50c.

Baldwins: Charles S. Pope, \$1; G. K. Staples, 50c.

Ben Davis: E. A. Lapham, Pittston, \$1; Alonzo Butler, 50c.

Fallawater: William Hiscock, Farmington, 50c.; Charles S. Pope, 25c.

Fameuse: E. A. Mero, Union, 50c., J. O. Cobb, 25c.

Hubbardston Nonsuch: C. H. Judkins, \$1; R. B. Robbins, Union, 50c.

Jewett's Fine Red: Mial Mosman, Union, 50c.; E. Ware, Union, 25c.

Milding: Conrad A. Seiders, Union, \$1; D. P. True, Leeds Center, 50c.

Mother: Charles S. Pope, \$1.

Northern Spy: C. H. Judkins, \$1; J. O. Cobb, 50c.

Rhode Island Greening: C. A. Arnold, Arnold, \$1; E. A. Lapham, 50c.

Roxbury Russets: Alonzo Butler, \$1; G. K. Staples, 50c.

Stark: J. O. Cobb, 50c.

Talman's Sweet: Charles S. Pope, \$1; D. P. True, 50c.

Tompkin's King: R. B. Robbins, \$1; Charles S. Pope, 50c.

Wagener: G. K. Staples, 50c.; J. O. Cobb, 25c.

- Winthrop Greening: E. A. Lapham, 50c.
 Yellow Bellflower: E. A. Lapham, \$1; G. K. Staples, 50c.
 Lawrence Pear: Alonzo Butler, \$1.
 Keifer: D. P. True, \$1.
 Vicar of Wakefield: D. P. True, \$1.
 White Doyenne: D. P. True, \$1.
 Quince: D. P. True, gratuity, \$1.
 Canned Apples: Hall & Wheeler, Chesterville, \$2; Bonney, Wheeler, Dingley & Company, Farmington, \$1.
 Tumbler Apple Jelly: Hall & Wheeler, \$1.

SUMMARY OF AWARDS AT THE ANNUAL EXHIBITION.

Apples—General collection	\$ 39 00
County collection	135 00
Specials	49 00
Single plates	49 00
	—————
	\$272 00
Pears	51 50
Grapes	5 00
Plums	26 50
Fruits in glass	1 50
Miscellaneous—Collection canned fruits	\$13 00
Canned fruits	11 25
Jellies, &c.	10 00
	—————
	34 25
Flowers, etc.—Cut Flowers	\$51 00
Designs, &c	22 00
Plants, &c	47 75
	—————
	120 75
Window Garden	18 35
Wild Flowers	13 00
	—————
Total	\$542 85

AT THE WINTER MEETING.

On apples and other fruit	\$42 00
Awarded at Fair	\$542 85
Awarded at Winter Meeting	42 00
	—————
Total awards	\$584 85

The awards made at the Winter Meeting do not appear in the Treasurer's report for 1898, except as a liability. These premiums were not paid until the report was closed. They will appear among the payments next year.

Business Transactions at the Annual Meeting.

September 7, 1893. The members of the Society met at Park Hall, Lewiston, at 6.30, P. M. Proceeded to elect officers for 1894. [See page 8.]

On motion of Prof. Munson it was voted, that the Committee on Nomenclature be instructed to prepare a revised list of fruit to be presented at the next winter meeting.

AT THE WINTER MEETING, DECEMBER 5TH AND 6TH, 1893.

By arrangement with Hon. B. Walker McKeen, Secretary of the State Board of Agriculture, the Union Winter Meeting of the two organizations was held in Town Hall, Union, December 5th and 6th, 1893.

The meeting was called to order at the appointed hour, Tuesday, December 5th. The reports of the treasurer and secretary were read and accepted. [See preceding pages.]

Voted, That a committee on fruits and one on resolutions be appointed by the chair.

President Pope then appointed H. W. Brown and Charles A. Miller committee on fruits; and Charles E. Wheeler, D. P. True and H. G. Staples, committee on resolutions.

On motion of D. P. True, the recommendations of the President's address were referred to the following committee, designated by the chair: F. S. Adams, W. A. Luce, D. P. True.

Mr. H. W. Brown in behalf of the committee reported on the fruits on exhibition and their report was accepted. See pages 20, 21 for awards.

Mr. F. S. Adams in behalf of the committee to whom were referred the recommendations of the President's address, reported as follows:

The President called attention to the necessity of requesting our legislature to take some action to prevent the spread of insects and diseases in our orchards, particularly of the trypeta or apple maggot and the disease called black-knot of the plum. Your committee, realizing the importance of prompt action in behalf of our fruit interests,—Recommend that a committee of three be appointed by the Chair to gather what information they can relative to the subject and report at the next annual meeting of the Society.

The report was accepted and adopted, and President Pope appointed: Professor W. M. Munson, Willis A. Luce and S. H. Dawes.

Mr. C. E. Wheeler, for the committee on resolutions, reported resolves as follows:

Resolved, That we hereby tender our thanks to the railroads and press of the State for the reduced rates and kind notices

To the people of North Knox and the proprietor of the Burton House we wish to express our appreciation for their many courtesies.

Resolved, That we are mindful of the care and pains taken by our member, Alonzo Butler, that this meeting should be a success.

MEETINGS OF EXECUTIVE COMMITTEE.

February 27, 1893. With the approval of Messrs. Pope and True, the secretary this day contracted in behalf of the Society with Willis A. Luce to perfect and install the exhibition of Maine fruit at the World's Fair, under the contract made with the executive commissioner.

March 1st. A letter was received from George M. Twitchell, Secretary of the Maine State Agricultural Society, having the following reference to the next annual exhibition:

"I am authorized by the President of the State Agricultural Society to extend an invitation to the State Pomological Society to hold their exhibition for 1893, in connection with the Maine State Fair, September 5-8, upon the same terms as in 1892."

In behalf of the executive committee the secretary with their approval accepted the invitation.

October 26th. Meeting at Winthrop. The secretary presented the schedule of awards made at the annual exhibition of the Society, amounting to \$542.85.

Voted, That the treasurer be and hereby is instructed and authorized to pay from the treasury of the Society the premiums awarded at the annual (1893) exhibition of the Society, as per schedule of awards submitted by the secretary.

Voted, That the Treasurer be and hereby is instructed and authorized to hire to meet the current expenses of the Society a sum of money not exceeding five hundred fifty dollars, on demand or until such time as the Society shall be able to pay the same; that for the security of the same the treasurer is authorized to deposit such collateral for the permanent fund of the Society as may be necessary for the purpose.

Voted, To offer \$50 in premiums for an exhibition during the Winter Meeting.

An invitation was presented by Mr. Luce from the President of the North Knox Agricultural Society to hold our next Winter Meeting at Union.

Voted, To accept the invitation, and that the President and Secretary be instructed to arrange for the date and programme.

December 6th. The secretary presented a communication from the officers of the World's Horticultural Society, regarding that organization, and it was voted to place the same on file.

PUBLIC MEETINGS
OF THE
Maine State Pomological Society.

PAPERS, DISCUSSIONS, ETC.

ANNUAL MEETING, LEWISTON,
September 7, 1893.

SPECIAL MEETING,
Conducted by the Executive Committee,
WINTHROP, October 26, 1893.

UNION WINTER MEETING, UNION,
December 5 and 6, 1893.

PUBLIC MEETINGS.

PROGRAMMES.

AT ANNUAL MEETING DURING THE EXHIBITION.

Music, conducted by A. R. Smiley.

Maine Fruit at the World's Fair, Willis A. Luce, South Union.

Music.

Varieties of Small Fruit Best Adapted to Maine—consisting of
short papers and discussions by Maine fruit growers.

Music

SPECIAL MEETING, WINTHROP.

The Orchard. Conducted by President Pope.

Small Fruits. Conducted by Willis A. Luce.

Music, led by Charles E. Moore of Winthrop.

UNION WINTER MEETING AT UNION DECEMBER 5 AND 6, 1893.

TUESDAY, 10 A. M.—BUSINESS MEETING.

Report of Treasurer.

Report of Secretary

Other business matters

TUESDAY P. M.

Address of Welcome H. M. Lord, Rockland.

Response.

President's Annual Address. Charles S. Paine, Manchester.

Maine Apples at the World's Fair. Willis A. Luce, Union.

TUESDAY EVENING

Music

Paper. D. H. Knowlton, Farmington.

Music.

A Demonstration in Apple Cookery,

Miss Anna Barrows, School of Domestic Science, Boston.

This was a lecture illustrating the process of making palatable dishes in which fruit is used. Miss Barrows used a stove and showed results.

Music.

WEDNESDAY A. M.

Paper,	Charles E. Wheeler, Chesterville.
Discussion.	
Plum Culture,	S. D. Willard, Geneva, N. Y.
Discussion.	

WEDNESDAY P. M.

The Orchard,
Conducted by Charles S. Pope, and J. W. True, New Gloucester.
Discussion.

WEDNESDAY EVENING.

Music.	
Children and Plants,	Mrs. Helen B. C. Beedy, Bangor.
Music.	
Home Surroundings,	Professor W. M. Munson, State College.
Music.	

PAPERS, DISCUSSIONS, Etc., AT THE STATE FAIR MEETING.**VARIETIES OF SMALL FRUITS BEST ADAPTED TO MAINE.**

It is very gratifying to note here that the culture of small fruits in the State has very largely increased within the past ten years. Largely through the efforts of our society the people of the State have been taught the *how* of small fruit culture, and they have also become aware of the fact that small fruits will do as well in Maine as in other parts of the country. There is now a general feeling among our people that it is possible for all who may have the land to grow what small fruits they want and some to spare. A few years ago Maine farmers would tell you that they did not have time to plant strawberries and take care of them. To-day they are inquiring about the best varieties to plant and where they may

obtain them. In other words they quite generally conclude to please the women folks and have a few berries for their own use. With this in view some of the growers of Maine speak of the different varieties of small fruits best adapted to the State. The culture is now pretty well understood by those who are ready to set out the plants. What kinds shall we set out? is the inquiry, and these suggestions are only to answer from the experience of Maine growers this question.

Mr. Horatio Clark of New Portland, though not a very large grower of strawberries, raises a large number of varieties and raises them very successfully. We have never seen better strawberry plants growing than those found in his beds. In reply to questions addressed to him he writes that he has^t grown a large number of varieties, but finds that the Bubach No. 5, and Haviland do the best with him. The Crescents do^t well for one or two seasons and go out quick. Havilands will stand more droughts and winter frosts than any variety he has raised. Mr. Clark the present season produced some over thirty bushels.

Mr. W. H. Allen, gardener at the Maine Insane Hospital, writes :

AUGUSTA, August 21, 1893.

We do not grow a very large quantity of small fruits but we have what we call a good quality of each and consider them as profitable as anything in the garden department. For strawberries we grow Bubach as Pistillate and May King as Bi-Sexual. They gave us eighty-six bushels on a little over one-half acre and would have had a great many more were it not for the drought.

Raspberries, the Turner is our early kind, good and productive. Cuthbert for late and I know of no better.

In blackberries we consider the Snyder as a good standard berry and grow it exclusively.

The Currants, our main crop, is the Versailles (or cherry) and White Grape, and we find them both very fine and exceedingly productive; we have a few Fay's but they are young and have borne but a few this, their first year, but they promise well, and I think we shall plant more.

We have but few gooseberries of the Downing and Smith's Improved, and (as I am giving my own experience in the other kinds I can say but little of these as yet) what few they have borne were good in size and quality, this being their first.

W. H. ALLEN.

Mr. B. M. Titcomb of Farmington, has kindly furnished the following information in regard to the matter under consideration :

I am raising the Cuthbert raspberry and the Wilson and Crescent strawberry. Can some one tell me of a better plant to set with the

Crescent for a fertilizer than the Wilson? The Wilson makes a slow growth and winter kills. I have learned by experience that I am going over too much ground for the amount of fruit. This season I raised 4,000 quarts of strawberries to the acre. In the future I am going to try for 6,000 quarts to the acre. It will cost no more for cultivation. I shall set sixty rods of raspberries this fall with the intention of seeing how many berries I can raise to the rod.

Mr. S. H. Dawes of Harrison, who is one of the most enthusiastic and successful fruit growers in the State has tested a large number of varieties, but as will be seen by what he recommends that he does not consider the list of profitable varieties a very large one. Here follows abstracts from his paper and his list:

I commenced the cultivation of strawberries about seventeen years ago with what was then called the Green Prolific, and soon learned that it was a fraud and that there was nothing prolific about it. I then tried several other varieties, among which was that good old standby, the Wilson, which was the best of them all then, and is as good now as it ever was. I believe the most we read and hear about the deterioration of this and that kind of fruit is nothing but starvation; and if you can procure good, healthy Wilson plants, and not starve them to death, they will produce as well now as they ever did. I continued their cultivation for my main crop, and was quite successful in a small way, but was all the time fooling with all the new sorts I could hear of till I was induced by one of my friends to try a few plants of the Crescent Seedling. I received the plants quite early in the spring, and was forcibly impressed with their inferior looks, and had many misgivings in regard to them; but I set them out and gave them the same cultivation that I did my others, and they grew and multiplied wonderfully, and when they came to bear the following season the vines were a complete mass of fruit and astonished all that saw them. I have continued their cultivation from that time to the present and they show no sign of deterioration, for my crop was the best this (1893) season that it ever was since I have been in the business. I know that many claim that they must be fertilized with some staminate sort, in order to give the best results. I have experimented somewhat, in order to satisfy myself on this point, and have arrived at the following conclusion: that I can raise more fruit at less cost with the Crescent Seedling without any staminate sort near them, than I can with any other variety I have ever tested. But from the experiments I have tried the last few years, I am equally well satisfied

that I can get a little nicer fruit and more of it by having them fertilized with some staminate variety, and for the last two years I have mixed the Wilson and Crescent together, say about one plant of the Wilson to three or four of the Crescent, and the result has been highly satisfactory. From my own experience and all the evidence and information I can get from books and papers published over the whole country, if it was left for me to say, I should crown the Crescent king, and Wilson queen; and when you have joined and grow the two together, as they should be to produce the best results, you obey Nature's law, and have the most prolific family of luscious fruit known to this Society.

For a red raspberry the Cuthbert, all things considered, stands at the head (although there are several others nearly as good). It is of the largest size, a good shipper, the most prolific, of good flavor, brings the highest price in the market. Its season lasts from four to five weeks and is every way satisfactory when it is properly treated and cared for. For a yellow variety I would recommend the Golden Queen. It is a good yielder but not a good shipper, nor is its flavor equal to the Cuthbert. But a few boxes of them properly arranged look well in a crate and a few put up in glass jars and set beside those of darker colors make an agreeable contrast.

Black Caps are a noble berry, and every one should cultivate enough for his own use if no more. I have tested several sorts and if I was limited to one variety I should choose the Seneca Black Cap first and the Gregg second. The Seneca is a great bearer, and perfectly hardy. I have grown them successfully on the same ground for years, and they have given perfect satisfaction. The fruit is not quite as large as the Gregg but fully the size of Mammoth Cluster and the other sorts and stands our winters much better. They make the nicest pastry I ever tasted and when the proper amount of sugar and cream are used they make a dish fit to set before the king.

There are several varieties of currants—the White Grape, the Reds and the Blacks. I have had no experience with the Blacks and cannot judge of their merits. But the White Grape should be highly recommended and its cultivation increased, for it is the best of the whole family of currants for table use and a dessert fruit. I don't think there is much difference in the leading varieties of the

Reds, and you will make no mistake if you select either of them, the Cherry, Fay's Prolific, or Versailles.

We will now notice some of the small fruits that are grown on thorny bushes. In Matthew I think the question is asked "Do men gather grapes of thorns or figs of thistles?" And St. Luke, if I recollect rightly, in alluding to the same subject calls it the bramble bush. Both referring to the impossibility of growing good fruit on such mean scrubby bushes. And it was impossible in those days, but times have changed. The desert has not only been made to blossom like the rose, but we get some of our best fruits from the worst thorns and brambles I ever saw. And if we do not gather grapes and figs from them we do something just about as good. Where will you find a worse thorn and bramble, or a much better fruit than a good, well ripened Snyder blackberry, or a thistle that will prick worse than the thorns on a Smith's Improved Gooseberry bush? And yet their fruit is about equal to the grape and fig, and I can heartily recommend them both as the best of all others of their kind for a general market crop and for home use. There are many inducements why the cultivation of small fruits should be encouraged. They are not only the most profitable when rightly managed but the proceeds are more regular and sure. There is no off year in the business as with orchard fruits, neither are they so sensitive to drought and rains as are our common field crops. But there are other and higher considerations of a moral and social nature that should be prized of far more value than mere dollars and cents. There are no demoralizing influences connected with it, as there are with the trotting horse and the race course, neither are men so subject to disappointment and losses. It not only brings a man in contact with the most intelligent portion of society, but it is so attractive and elevating in its nature that the ladies, who constitute the best half of our community, can engage and become co-laborers in their cultivation. And when you take all things into the account, the ins and the outs, the ups and the downs, I think that for a young man especially who intends to follow rural pursuits it has more attractions and advantages than any other branch of agriculture, and he can do no better than to engage in their cultivation.

Prof. W. M. Munson from the experiment station sends out a general bulletin on the "Varieties of Fruit" best adapted, or growing most successfully in the State at the present time. From this the following varieties are recommended for Aroostook, Piscataquis,

Northern Somerset, Penobscot and Washington counties: Agawam blackberry, Cuthbert and Tyler raspberries; Fay's Prolific and White Grape currants, and the Houghton gooseberry.

For Oxford, Kennebec, Waldo, and the southern counties, the following varieties are enumerated: Cuthbert, Golden Queen, Shaffer, and Gregg raspberries; Agawam and Snyder blackberries; Fay's Prolific, Versailles, Victoria and White Grape currants; Downing, Houghton and Smith gooseberries; Bubach No. 5, Crescent, Haverland, Sharpless and Wilson strawberries.

Professor Munson adds that the varieties named are the ones most commonly grown at the present time. It is believed that many of these varieties (especially of the small fruits) will soon be superseded by some of the newer introductions, even as the Hovey strawberry, Knevett raspberry, and Dorchester blackberry have given place respectively to the Crescent, the Cuthbert and the Agawam.

AT THE WINTHROP MEETING.

ORCHARDING.

President POPE Conducted the Speaking on this Subject.

As a result of his success in orcharding he presented many helpful and practical ideas on the starting of the orchard. The location being determined, the first essential to success is to obtain good trees. In the purchase of nursery stock too often the price rules regardless of the quality. A mistake made in setting poor trees can never be corrected. Get trees as near home as possible, but be sure to get good ones. Don't set Baldwins that have been grafted in the nursery. He had practiced setting seedling trees, and grafting into the limbs as soon as the trees are of sufficient size. He has set Ben Davis, Haas and Talman's Sweet, these being hardy varieties. After the trees are well grown he grafts into the limbs Baldwins and such other varieties as he may desire.

Experience has taught him many lessons as to the time of setting trees. He used to wait until the soil was in good condition for planting corn, but now he sets his trees as early in the spring as the frosts and rains will permit. The trees should be set before the

buds swell, so as to give the roots a chance to start before the leaves begin to grow. If the roots get an early start the tree will make a better growth the first year. There is a great advantage in grafting your own trees, for in this way alone you are sure what varieties of fruit you are going to have when the trees begin to bear. There are few orchardists who have bought trees without being disappointed when the apples appear. All over the State thousands of trees have not proved true to name.

It will avoid sunscald in the trees if they are inclined a little towards the southwest. Great care should be taken to have the soil firmly pressed down about the roots. As a rule he never cuts back the limbs of the tree he is setting unless they are bruised. If the roots are short, and there are too many limbs, cut off the lower ones. Sometimes when the last year's growth is large, or there are few limbs, cut back the limbs so as to be in proportion to the roots. Did not believe in setting the trees in the fall. It might do to get ready in the fall, but he would wait till spring before he set trees. If trees are to be set in the fall they should be set early in October.

In setting out trees, the distance should be determined somewhat by the variety. The upright growers may be set as near as twenty feet of one another, but more spreading varieties like the Tompkins, should be forty or forty-five feet apart. The most desirable size of trees is three-fourths of an inch to an inch in diameter. After the trees are set for several years a hoed crop may be grown to advantage, though you cannot expect a good crop from the ground and another from the trees. It is a very good idea to mulch the trees when they are first set, as the mulch will keep the soil moist and keep back the grass. He did not believe that anyone in Maine had been guilty of applying too much manure to orchards, there is rather danger in using too little so that the trees suffer for a want of sufficient plant food. Ordinary manure from the yard and stable is good enough, but if commercial fertilizers are to be used bone meal and some form of potash are the most desirable.

Willis A. Luce followed with the results of his own experience. The supply of manure has been insufficient and to increase it he has pastured both sheep and hogs in the orchard. Pigs will do good work but he objected to old hogs as they learn how to get the apples off the trees and sometimes damage the trees. Hogs will work over the surface and leave it nice and mellow, though he had never been able to make them level it up. Both sheep and swine eat the wind-

falls and wormy apples, and in this way are very valuable aids to the orchardists. From an orchard pastured with swine last year he has raised a good crop of apples this year. There are fewer worms when the apples are used up in this manner. He seemed to think the apple trees needed potash more than any other fertilizer.

Professor Munson added that potash was the fertilizer most needed by bearing trees. Hard wood ashes are perhaps the best, as they contain both potash and phosphoric acid. Ashes and ground bone applied together make an admirable fertilizer, and the potash gives the fruit the most delicate flavor. Some one asked if salt was good, and the professor replied that salt of itself had no fertilizing value, but its mechanical influence is often beneficial in causing the soil to give up fertilizing material for the plant. Eight to ten bushels to the acre will be a sufficient quantity of salt to use.

W. P. Atherton of Hallowell told the mistakes he made in setting trees too near together. Somehow he was unable to look ahead and see how large the trees were going to be. He referred to Dr. Hoskins, who advocated setting trees thirty by fifteen feet and then cutting out every other row, after the branches begin to meet. In fertilizing he had used all the manure of the farm. He had tried sheep and swine. He was much pleased with the work done in the orchard this fall. He was going to put on some bone meal and ashes, and harrow both in well.

Reference was made to the subject of pruning, and Mr. Pope, in response to several growers, said that for growth he would prune before the leaves start, but for fruit, prune in the summer. Large limbs he preferred to cut off in April or May. Wounds caused by pruning at this season will begin to heal over at once. Cutting limbs in summer gives the tree a check which tends to the formation of fruit buds. With young, healthy trees, it makes very little difference what the season is, but he thought pruning was often carried too far.

In the matter of spraying, Professor Munson stated that he was willing to go on record that spraying with the Bordeaux mixture would control the apple scab. Possibly there might be a question as to the best time in which to apply it. The ravages of the Codlin moth are very much reduced by the use of Paris green. Use one pound to 250 gallons of water. Spray after the blossoms have fallen.

Secretary Knowlton spoke of the importance of setting an orchard in good land. It does not pay to use rocky or hilly land, that cannot be cultivated. Good orchard land in most parts of the State can be had for \$10 to \$50 an acre. He also spoke of the individuality of varieties of apples. Each has its own flavor, color and size. Each, likewise, has its likes and dislikes of the plant food within its reach. He hoped the time would come when more would be known of these individual properties, so to speak, of the fruit and the tree.

SMALL FRUITS.

Mr. Willis A. Luce, who has had a wide experience in the cultivation of small fruits for the market on his farm in Union, spoke of the profits of strawberry culture, and then said any land that would grow corn to advantage would grow strawberries to a fair crop. Make the ground smooth before setting the plants, and have the rows straight, four feet apart, and the plants twenty inches in the row. Straight rows permit the use of the cultivator without danger of tearing up the plants—and it also permits of working close to the plants. Spread out the roots carefully and press the dirt firmly about the roots, and be careful to have the crown of the plant come about the same as it grew before it was removed. Two good hands will set about a thousand plants a day. Cultivate as soon as the weeds start and keep it up through the season. Cut off the first runners and do not permit the vines to bear any fruit the first year.

He recommended the following varieties : Crescent Seedling first, then Charles Dowling, Wilson, Jessie, Sharpless, Parker Earle, Manchester, Bubach. He also recommended Michel's Early and thought it a good variety to set with the Crescent Seedling. He used swale hay for covering in the winter to prevent injury from freezing out. Use most of the mulching between the rows and put only a slight covering over the plant itself. Strawy stable manure also makes a good mulch. Girls make better pickers than boys as they are more careful. In marketing use only clean boxes and crates, and offer only good fruit.

Other small fruits require about the same conditions of soil ; raspberries should be set six feet apart, and blackberries eight, currant and gooseberries in rows six feet apart and the plants three feet.

Secretary Knowlton followed and briefly referred to the ease with which enough fruit for the family can be raised. Set strawberry plants in long rows three or four feet apart, and let the old horse draw the cultivator through the first season as often as once every week or ten days. Pinch off the blossoms and the early runners. Then if you don't want to do more, the plants will take care of themselves, and the following year without any care will bear a good crop of berries. In the interior of the State mulching is not necessary. The snow is a good mulch and will hold the plants in place. Near the coast mulching is necessary, and in the interior it will do no harm. He spoke in praise of the Bubach and Haverland; the latter the past year was a great favorite with him. The berries were large and of fine flavor, while the vines are strong growers and free from rust and blight.

AT THE UNION WINTER MEETING.

THE ADDRESS OF WELCOME.

By H. M. LORD, Rockland.

Mr. President, Ladies and Gentlemen:

It is rather a peculiar and rather a unique task imposed upon me to-day, that of welcoming a convention of agriculturists, the Maine State Pomological Society and its kindred organization, the State Board of Agriculture. I say a unique task, inasmuch as I am not a fruit grower in any sense of the term or even an agriculturist unless it may be in some very liberal interpretation of the term. I am a representative of that great class, the consumers, and the consumer has, or should have, a more vital appreciation of anything produced by Maine than the producer himself. So it may be from some such reason as this that I am selected to extend to these two societies the sincere words of greeting which at their best inadequately express what fills the hearts of all those who live in this part of the State. The appreciation of the work that this society has done and is doing is not confined within the limits of the State of Maine, for so far as the reputation of Maine products has extended just so far has the reputation of these two organizations reached. And who shall attempt to

define the limits beyond which the good qualities of Maine products are not well known and appreciated. Every year across the great ocean mighty steamships carry thousands of barrels of these tempting spheres which have budded, blossomed and fruited on the fertile hillsides of this State. Unmindful of Bunker Hill and the battle-fields of 1812, in return for bullets and grape-shot which made children fatherless and mothers and children homeless, we send back to our English cousins bullets and grape-shot of tempting exterior carrying assurances of life and health and strength and good cheer, and it takes across the water with it a message of God speed, and carries with it a breath and aroma of freedom and liberty to that great kingdom which must inevitably follow the example set by its precocious colony and lay aside the monarchical form of government and take its place in the rapidly swelling ranks of the republics of the world.

I have learned to appreciate the fruits of Maine fully. I was located for many months in the South where the velvety peach waved before my eyes, the pineapple with its palatable interior lay at my feet, the orange yellow and saffron, almost bursting with its pent-up sweetnes, snodded to me on every hand, the grape fruit demanded my recognition and the persimmon, creamy and sweet fell around me; but I would willingly have given them all for a taste of a good Maine apple. In the far West I made my home and the luscious fruit of the western country threatened my fealty and lay claim to my appreciation, but I would have bartered all of these prides of the Pacific for a ripe, juicy apple. I seemed to see as in a mirage the picture of my own state. I could see its productive farms and the heavy laden orchards in the sunshine. I saw the Nodhead as it beckoned to me over some rustic fence. I saw the old reliable Baldwin, suggestive to me cf the days when it played so important a part in filling the depths of the capacious Christmas stocking borrowed for the purpose. I remembered the days of my boyhood when the well-filled barrel of apples was placed in the cellar. I recollect how forth to school I went with pockets bulging out with well selected favorites. I have experienced joys and sorrows, I have met successes and reverses, I have made money and lost money since then, but never have I experienced such strong satisfaction as when my capacious barns were filled almost to the bursting point with the products of my own orchard. Never did I so sincerely regret the reverses of fortune as when I lost my beloved watercore and found a decayed interior.

It was in such pictures as these that I learned to appreciate the State of Maine, that I learned rightly to estimate Maine joys, Maine people and Maine fruits. I learned to realize to the full that Maine was plenty good enough for me. So I heartily and honestly welcome you here to-day. We know what good fruit is because we produce it. We know good fruit growers because we have them in our midst and they make our most thrifty and well to-do people. Again, in behalf of the great class of consumers which I represent do I welcome you here to-day. You are known to us by reputation. You have come to a place where the open hearts of the people prompt an open hand. The land is yours to enter in and possess it. It may not be like the land of promise, flowing with milk and honey, but it is flowing with the milk of human kindness and extends a sincere welcome. It is our wish that your stay here may be so pleasant and profitable that when the hour comes to depart you may be able to say in all sincerity, "It is good to have been here, soon may we come again."

RESPONSE.

By F. S. ADAMS, President of the Board.

Mr. President, Ladies and Gentlemen: It is somewhat embarrassing to be called upon at this time. I came here to meet you, intending to take no part in the proceedings of the meeting. It is impossible for Secretary McKeen to be here to-day, because of engagements in other parts of the State. I was very glad to listen to the kind words of welcome from our brother. I had not got off the train before I was met by Brother Butler, and I realized that you people had warm hearts and extended to us a hearty welcome. The cultivation of fruits is an old and honorable occupation. A man or a woman engaged in this occupation, I find, always has a large heart. It is because they are so closely in connection with nature and nature's heart that it is impossible to be a fruit grower and a mean man. We read in the Bible that the first parents found fruit in the Garden of Eden. It has been an important industry since the creation of the world. People are learning to appreciate fruits.

There is more consumed now than ever before. The markets all over the world are opening up, so that no man may be discouraged by going into the fruit business. The cultivation of small fruit

should succeed more and more. I believe every farmer should raise enough for his own use, if he does not raise them to make money. He who don't provide small fruits for his own table is worse than an infidel. There is no reason why we should not have these small fruits. It makes a great difference in the cooking of the family. Berries take the place of pies, etc. The fruit growers of Maine and the members of this Society, I can assure you, are working in harmony. What is for the interest of one is for the interest of the other.

We thank you for your cordial welcome here to-day. We knew before we came here we should receive a cordial welcome. I want to say a word about your beautiful town. I have always heard that the town of Union was the most beautiful town in the State but the half has not been told.

PRESIDENT'S ANNUAL ADDRESS.

By CHARLES S. POPE, Manchester.

For twenty years I have not failed to meet the fruit growers at our winter meeting, and it is with pleasure and increased interest that I again greet you.

The question often presents itself when pressing duties are demanding our attention, as we leave home to attend these meetings, Does it pay? What do we receive in return for possible losses? Our answer is, we here meet practical men who are willing to give us their methods and practices, many of which are improvements on our own and we may even learn much from a recital of their failures. The specialists will open up new fields and show us a better road to success. The topics presented, intelligently and broadly discussed, will lift us from old ruts and help us in these days of sharp competition to practice those methods which will give us a profit in the business, instead of a loss. We shall also feel richly repaid for the time spent if we are able to so present the subject as to encourage others who have heretofore taken no interest in horticulture, to cultivate fruits and flowers and share with us its pleasures and profits.

I am firm as ever in the faith that the growing of apples and small fruits, can be made a source of profit, not to the ignorant or indolent but to the expert, in this as in most other branches of busi-

ness. Those who attempt to raise fruit without extra care may obtain a good crop in years of plenty, when of course prices are so low that the receipts will barely pay expenses, but the art of raising a good crop when prices are high is what we are seeking for, and those who, by good cultivation and extra care, can guard against the ravages of insects and diseases will receive bountiful returns for their labor.

It is with great pleasure that we note the increased interest taken by our farmers in supplying the family with small fruits. Would that I could impress upon every farmer the necessity of having, not only a good vegetable garden, but could show him the ease with which bushels upon bushels of small fruits can be produced at a cost but a little above the expense of raising corn or potatoes. Too many of them look upon small fruits as a luxury only, forgetting that our health requires, particularly in the summer, the acids which are here supplied, and that his table can be furnished with a dessert more palatable and much cheaper than cake and pastry. Few people who have depended upon the market for their berries, can realize how delicious is the strawberry or blackberry as grown in the home garden and allowed to remain upon the plant until thoroughly ripe, and having enjoyed such fruit, we venture to say, the fruit garden will not be neglected.

For several years our Society has assumed the management of the horticultural part of the exhibit of the Maine State Agricultural Society at Lewiston. We are thus obliged to hold our fruit exhibit before our winter apples have matured, and if we continue this practice, I would recommend offering liberal premiums for an exhibition of fruit at our winter meeting. This would necessitate holding the meeting early in the winter, if we would secure a fine exhibit of late autumn and winter fruit.

The practice of making an exhibit of our Maine apples whenever an opportunity offers, should be continued, to advertise our fruit and secure more buyers. We should feel satisfied with our success in obtaining premiums, whenever we have made a display in competition with other states.

I desire to call your attention at this time to the necessity of requesting our legislature to take some action to prevent the spread of insects and diseases in our orchards, particularly of the trypetia or apple maggot, and the disease called "black-knot" of the plum. If our people fully understood the character of this

fungus we think they would see the reasonableness and necessity of a law to prevent its spread. There is no justice in allowing a careless, heedless man to contaminate the atmosphere with fungus spores and thus make it impossible for others in the vicinity to raise plums and cherries.

The laws in some of our Western States and in foreign countries are very strict in this matter and we see no way to prevent the spread of some insects and diseases unless the careless orchardist is obliged by law to assist in exterminating the same.

The assistance of scientific men in giving us a remedy for the scab and the codling moth should be appreciated more by our orchardists and until they find some way to help us destroy the trypeta and prevent the black knot, we must rely upon the united effort of every fruit grower, to prevent the spread of each of these pests.

The partridge has of late become such a nuisance in some orchards that it is about time to ask for a bounty on his head, in those towns where he is known to destroy the crop year after year, and even to ruin the orchard entirely. Not being satisfied with the fruit buds alone he will sometimes take the leaf buds and tips of twigs, until the tree is a veritable scrub. We believe our horticulturists should ask more of the Experiment Station. Many questions of vital importance have come up which need to be settled by years of careful experimenting. Something has already been done to prevent the ravages of diseases and insects, but we need also experiments in fertilizing, pruning, adaptability of varieties to climate, and many other points, which are too expensive, or require more accurate experimenting and more time than the common orchardist is able to give.

We remember reading a few years ago, a scheme of one of our western horticultural societies, to obtain members which we think might be tried here to advantage. Fruit trees and plants of recent introduction, and which promise to be of value, are distributed annually to the members. We could in this way without doubt add largely to our membership and also awaken an interest in fruit growing amongst those who would be reached in no other way. It is our expectation in the future to have more money to expend and then the Society will be able to extend its work. There are many topics which ought to be brought forward, as we can find time, beside fruit growing. Few understand packing as it ought to be done. The transportation of fruit and marketing are serious

questions, and more than this I believe we should urge our people to spend a little more time to beautify the home. Let me say a word for what is commonly termed the sentimental. I mean love for the beautiful, which I sincerely believe, should be carefully fostered and cultivated in our children, as a means to develop character, tending to positive manhood and womanhood. The love of the beautiful is not mawkish; it never detracts from, or in any way interferes with the practical or business abilities of a man. It gives rather a genuine meaning to life, more satisfactory because on a higher plane than the mere bread and butter ambition. Have we not as a Society overlooked this phase of the subject too much and expended nearly all our efforts in instructing farmers how to make the most money possible? The farmer who has not mistaken his calling will be mindful of planting ornamental trees, shrubs and vines about his home, and supplement them with a good vegetable and fruit garden. The garden will pay a large per cent on the investment, even from a pecuniary point of view, to those who begrudge the time spent, in making the home, what it should be, a paradise on earth. I should feel well rewarded for my time spent here if I could induce one man to make the resolve and keep to it, that he would think less of adding to his bank surplus and spend more of his time and energy in gathering beautiful things about his home, and supplying all the fruits desired, both as a necessity and a luxury. Forever groveling as many farmers do, in raising crops which can be turned for cash, has dwarfed the soul, and some have even forgotten that there are higher and nobler things required of them.

MAINE APPLES AT THE WORLD'S FAIR.

By WILLIS A. LUCE, Union.

Mr. President, Ladies and Friends:

It is rather a peculiar subject to talk upon. Some people who have come back from the Fair have not spoken very encouragingly of our exhibit. I am going to speak of the exhibit not as it was after the first of June but was before that time. What I wish to show most of all is, some of the disadvantages under which our Society has been placed and under which they labored in securing a Maine exhibit at the World's Fair, also that while the exhibit was in the care of the Pomological Society it was a credit to the State.

In the first place, the Society, late in the season of 1892, about the time of our annual meeting at Lewiston, were asked to go ahead in this matter and make arrangements for exhibiting Maine fruits at the World's Fair at Chicago. The question came up as to the amount of money that should be given for that purpose, and the executive commissioner said that \$1,000 was all that would be allowed the Society. Of course any sensible man would say immediately that such an amount would be inadequate for so great an undertaking. Our Society hesitated and said they would not have anything to do with it, as the amount would not show Maine fruits as they should be and consequently wou'd not show Maine fruits. That was the right conclusion. It is an important industry, bringing to our State nearly a million and a half annually, and the idea that only \$1,000 should be allowed to represent it at the World's Fair was a disgrace to the State.

The fruit growers of the State came to the secretary and president and urged them beyond their better judgment that they should make an exhibit of Maine fruits. They knew that our fruit stands high in the market and we wanted to let the world know what kind of fruit we grow here in Maine; at the earnest solicitation of these men the society undertook the task and determined to do what they could for Maine at Chicago. A committee was appointed to collect all the varieties they thought would keep and put them in storage for use in the springtime, to send forward. The fruit was collected. Good specimens of each variety were selected as could be secured at that time. The committee labored under this disad-

vantage, the lateness of the season, as the time for gathering apples had passed. They would go to a man and say they wanted such and such fruit which they knew he raised. If this man had been asked in the summer to contribute this fruit the selection would have been better. Anyone who knows about this would know the difficulties under which the committee labored. While the fruit in many respects was not up to what they desired, it was the best they could secure with the means at their command. They secured forty-four to fifty barrels and stored them at the cold storage at Boston, and they came out in fine condition. On the twenty-seventh of March I was delegated to go and inquire into the condition of the fruit and ship them afterward to Chicago. We had trouble in securing a car for shipment, as we were obliged to have a refrigerator car, and after one was secured we found after being loaded it was marked for the shop, as it was disabled. All the way along it seems as if luck was against us. After a while we got the fruit started on its way. I immediately followed. On arriving at Chicago, I had the number of the car, and for some two weeks I tried to find on their books the number of the car that had been shipped, but never could. The fruit was taken out in the night. I was not present when it was done, nor could I find out just when it was to be done. They told me when I went to look at the fruit that it arrived in very bad condition. I knew we secured the fruit in the car in barrels and boxes, so that no amount of hard handling should be able to displace or break open the packages. They said the packages were broken badly and had shifted very much. I put the ideas together, that we could not find the number of the car, and that it had been marked for the shop before starting, and concluded it had been changed in transit, and that the fruit had not been properly packed when it was changed. If you have an idea of the number of cars going over the road you would be convinced that they are not very careful for at one time in May there were 5,000 cars waiting to be drawn into the yards and unloaded and I think that some of the very best fruits were lost in that way and what we did have, some of it was in bad condition owing to rough handling and the delay in unloading at Chicago. We encountered serious trouble even when there in getting our table, as every one wanted their work done at the same time. The space was changed several times. We hardly knew what to depend upon. We would take such space as they designated and then they would say that we could not have

it and when we finally got down to a space it was fifty-six feet long and four feet wide. That was for the Maine exhibit of apples and jellies and was in the south curtain. The table was not made here in Maine which was indeed a mistake. While we desired to do so at the time circumstances came around so that it was not, consequently it had to be made after we went to Chicago. This delayed us in getting upon our own space, I assure you. We had at the opening an exhibit of Maine fruits although it was not on our own space. At the time of my arrival they had been making flags in the south curtain and were just clearing out the remains. Not a thing was in readiness but a part of it was got ready even in time for the opening. I say we had a display at the opening but not being on our own space the executive commissioner thought best not to have as large a display as we were to make, so we put on 150 plates of apples of our best winter fruit and a few in jars. This was at the opening of the Fair. We were the only New England State that had an exhibit at that time, and were second to none of the others who did exhibit in the south curtain. I say this in face of what has been reported in relation to our fruit exhibit. I was there and know what I am talking about. The most serious difficulty under which we labored, was, that Maine is not and never has been in the show business. We were undertaking work we knew nothing about, which under any circumstances, is a difficult task. The Western States, just the minute the Fair was talked of, began with all the means they could secure and all the energy and push they possessed to prepare for the Fair to make the best showing they could for their state. All of these Western States are in the show business. That is one of the great purposes of their lives to show up their advantages. If you were there you realize very fully how they would show up these industries, especially the fruit growing business. They not only talked to you but brought such positive proof of the products of their soil that you were obliged to believe what they said. It was a great time in their existence as a state to make an impression upon the eastern people and bring more of them to the West where they have been drifting for years but not such large numbers now as in the past. If Maine had been in the show business, we too, could have been foremost in showing what she can produce upon her soil. I am not prepared to say it would have been the best thing for Maine to do, to put so much energy and time into an exhibit as many of the Western States did, but the

great use and purpose of the Fair was to show in an artistic manner the products of the world, and it was not always the best that secured the prize, but that that was shown in the most artistic manner. If you could have seen some of those fruit and agricultural exhibits, you would have been pleased. It was not always intrinsic worth nor quality, but to show in such an attractive way that they would bear off the prizes. That, it seems to me, is one of the mistakes of the Fair. They said in their circulars that quality should be first, but the quality is not in these insipid fruits brought us from the Rockies, although they are very beautiful to look at. When we come to test the quality of the thing, it is flat, and doesn't compare with our Maine grown fruits. I know that old Dirigo could produce and has produced as good fruits as were shown there, even in size, and we know they are better in quality. The states of Washington, Idaho, Wisconsin, as well as California, showed immense quantities of fruit, large and beautiful. They exhibited fruits that do not grow here. But when you come to compare our fruits with theirs, there is a difference; theirs is extremely overgrown in some instances, and when you get into it, the texture and flavor are wanting.

We moved to our own space the middle of May, and put on our full exhibit of fruits in jars in connection with those on plates. The jars were of different sizes and forms, holding from two quarts to seven gallons. There were upwards of fifty of these jars upon the table. When the fruit was first put up it looked very beautiful, and was admired by thousands. No preserving fluid has been found up to the present time that will hold the apple in its natural color for any length of time, and when I left the first of June the color was fast coming out, and this part of the exhibit was fast losing its beauty, and I am told that it was left on the tables in very bad condition. But we had no part in it after I left Chicago. It was in the hands of the State Board of World's Fair Managers, and whatever disgrace comes to the State of Maine does not belong to the Pomological Society, though it has been placed on us a great many times. Not but what I feel sorry for the State, but I don't want anything heaped upon us that does not belong to us.

In relation to the exhibit, Mr. Samuels, chief of the Horticultural Department, a man of great worth and judgment, came to me and said, "You have the finest exhibit of apples in the south curtain." I knew that but it was kind in him to say it to me.

We were given good notices of Maine's fruit exhibit in the Chicago papers, American Garden and Forest and Garden, also gave us kindly mention. Especially in the latter by Prof. Bailey which can be relied upon, as he is authority on all subjects pertaining to horticulture.

I understand by those who visited the Fair after I left, that the fruit was allowed to decay upon the tables, and it was very disgraceful indeed. I am very sorry if such was the condition. It has been brought up very many times in the press, but the blame belongs not to this Society, but to those in charge at the time. We have fruit in the State of Maine that we are willing to compare with any in the United States. We could have done better at Chicago if we could have had a man there to look after the exhibit. After I left one man was to care for eight, including Horticultural. Those exhibits at Chicago where there was not a man with it all the time to look after it, amounted to nothing. It was money spent in vain. I want to say this for the grand old State that we all love so well, that as a state we can grow and do grow as good fruit as the sun shines on; and as we come here to-day and see this fruit upon these tables it brings to my mind very forcibly this very fact and if we should ever have another opportunity of showing our fruits and making a display in our country I believe we want to take hold of it as a fruit organization and not depend upon any assistance from the State or State officers and then we can have an exhibit of fruit that would be an honor to our State even through the entire period.

In the line of comparison, California put a million into her World's Fair work and we put only fifty-seven thousand. You can make the comparison and can see how we would stand. While we did make an exhibit as a society it was a credit to the State of Maine.

A SCALE OF POINTS FOR JUDGING.

By D. H. KNOWLTON, Farmington.

We are all guilty of more or less irregularities, and we owe it to ourselves to guard against them as fast as we learn of their existence. In this way we may hope to reduce them and improve our condition. In the management of the affairs of our Society we have endeavored to avoid irregularities and have our affairs in a business-like form. With this in view, our records are complete and our treasurer's books are full each year since the Society has been doing business. There was a roll of members, but unfortunately in the Farmington conflagration in 1886, this book was overlooked and with many other valuables was destroyed. Our published transactions and the treasurer's records, however, show in more definite form, just who our members are at any particular time. Our Executive Committee on all matters not otherwise covered by general rules have passed and recorded definite votes. We have recommended that our treasurer open a ledger account in detail with our permanent fund, so that at any time his books may show how this stands, and we understand he is going to do so.

There have been more or less irregularity in the manner of conducting the exhibition. I do not see how we could possibly enforce, what in some societies proves a very important rule, that all entries shall be made in advance of the exhibition. Our exhibition comes so early that no one who cares to make a good display of fruit can tell what he has until the last hour before the fair. But other rules we are enforcing and we think our exhibitors and the public are well pleased with them. We should have a few more rules or else make a general rule that will cover all. In regard to the number of specimens of fruit, there should be a limit in justice to all, and I hope another year we may see this point gained.

Our State Agricultural Society has found it very much to their advantage to have a scale of points for judging of the merit of the animals on exhibition. The Massachusetts State Board of Agriculture the past year published and sent out for the use of local agricultural societies a scale of points, covering the live stock, vegetables and fruit. Secretary Sessions who was with us at our exhibition this year, said the plan was working well with him.

The following scale of points for judging fruits, is the one referred to :

SCALE OF POINTS FOR JUDGING FRUITS.

	No. of points.	Score.
Quality	20
Form.....	15
Color	15
Size....	10
Uniformity in size	20
Freedom from imperfections.....	20
Perfection	100

[The speaker with the aid of Professor Munson scored several plates of fruit to illustrate the use of the scale of points.]

At our exhibitions frequently we have had as many as fifty plates of Baldwins, and before the committee were able to pass on the prize plates it has been found necessary several times to weigh the fruit. Sometimes it has happened that the first premium was divided between two exhibitors, because the committee were unable to determine which of two plates was the better. A scale of points, properly used, would oftentimes determine this simply by adding up a short column of figures. These results, as a rule, are found out by some one other than the judge, so that he is not expected to know what story the figures may tell.

Now, there are other advantages connected with this system of making awards. The most important, perhaps, may be found in the educational work these scores will quietly bring about. An exhibitor is entitled to the score. He has it as an evidence of the appreciation others have of his exhibit. He can study it, and learn just how the result is reached. He can then for himself compare his exhibit with his competitors'. The next time he makes an exhibit he is going to be careful to improve over the previous year. So then the scale of points will show the exhibitors in what respects this or that exhibit is better than another. A wise man is made wiser by knowing his follies, and only the fool fails to improve, when the opportunity offers.

There should be a condition or conditions something like this: In order to receive the first premium the exhibit should score at least seventy-five points, and no exhibit should receive any premium that does not score fifty or more points. This past year in several instances when there was only a single exhibit second premiums were awarded. In two of them complaint was made, but if a scale of points had been used, we doubt if either would have scored fifty points.

I have written to several horticultural societies to ascertain what system of making awards prevail with them, but I have as yet got very little information that is of any value. The Massachusetts Horticultural Society on fruits use the scale of points to which reference has already been made.

Mr. Elijah A. Wood, who was with us last fall writes under date of October 8, 1893:

Yours of the 2nd inst., at hand. The only scale of points used by the Massachusetts Horticultural Society is the one adopted by the Massachusetts State Board of Agriculture on fruit. There is no scale on flowers that I know of. The Massachusetts Horticultural Society has adopted a scale on Chrysanthemum plants which is as follows: Size and form of plant, 25; size of bloom, 20; general effect, 30; foliage, 25. This of course could be adopted for some other species but could hardly be used for all. It is the only scale of points used in floriculture that I know of.

Yours respectfully,
ELIJAH A. WOOD.

In regard to the use of a scale of points, there is more work in awarding premiums, but the results are of far greater value since everything about the system requires care. The results too are definite and satisfactory to exhibitors. But this requires what it is not always easy to obtain and that is an expert judge who is competent to measure correctly the different points that make up the score.

In the county fairs, with which I am familiar, there is great looseness in making up the awards. Merit, which should always be the first consideration, for various reasons is often overlooked, and one of the chief objects for which a fair is held, is thereby defeated. While our Society has no jurisdiction over these organizations, it is not our province to dictate or even offer suggestions as to how the affairs of the society should be conducted. Yet I have thought we might in some way pleasantly get the subject before them and urge them to adopt more efficient methods of awarding fruit

premiums. At the same time a scale of points could be explained, and we have no doubt that in a few years some advance could be made. This could be more easily done if the Board of Agriculture would in some way unite with us in making such recommendations.

Now that I am speaking of the county fairs I am also reminded of the meagreness of the premiums offered for fruit. I should be glad if I could give you at this time the figures. The fruit and flower department of the State Agricultural Society costs that organization \$500 and the premiums awarded in the other departments is about \$12,000. Local societies give as low as twenty and fifteen cent premiums for single varieties of apples, so small only the most enthusiastic fruit growers will bring out their fruit at all, but for a horse trot that has nothing ennobling or helpful to the farmers the awards frequently amount to hundreds of dollars. The fruit industry is bringing thousands of dollars into the State and in several counties is becoming one of the most important, while the horse industry has ruined the prosperity of hundreds of farmers and at the present time has literally loaded the farmers down with unprofitable hay and grain eaters, that nobody wants to buy at any price, and we fear the worst is not yet reached, for the unprofitable creatures must be fed and cared for until there is some way for the unfortunate farmer to dispose of them. You may call it, if you choose, an "honest industry," it is proving nevertheless an unfortunate investment for the farmers. There may be some way in which our society could exert an influence that would lead to more liberal premiums for fruit. It is proper that the public should know how little recognition the farmers themselves are willing to give one of their own leading industries. This is an injustice that should not be continued, and we do not believe any industry will suffer by having each receive its full share of premiums at the fairs.

DISCUSSION.

S. D. WILLARD: Mr. Knowlton referred to the fact that your premiums at your State Fair were not what they ought to be. I have recently, as one of the executive officers of the New York State Agricultural Society, been through that mill myself. I know pretty much how it is. Our exhibit of fruit at the state fair got run down so it was almost a sham. Our county and no other county would exhibit what they had at the state fair, simply because the premium list was not what it ought to have been. I conceive it was, from his

report, in the same shape yours is here to-day. A few years ago the president of our state board asked me to take hold of it. I said, "No, I will not do it. I am not going to be the monkey to pull the chestnuts out of the fire in that way. I will tell you why; you will give to the horse breeders, the cattle breeders and the pig breeders all they ask for, but you will not give us respectable premiums in our department." They said if I would take hold of it they would give me just what I pleased. I said, "if you will endorse what I do you will have to revise your whole premium list." Instead of \$500 which they had given us, I asked for \$2,000. The cattle dealers had to pull down their premium list a little. I said, "I am going to have it, the board promised me what I wanted and I will be satisfied with nothing less." I got it. We offered a premium of \$200 for the best and largest exhibit of all kinds of fruit from any organization or society; a premium of \$150 for second. Then we went to work and raised our premium list all through, paying as high as \$50 for the best exhibit of pears, \$50 for plums and \$50 for apples. The result is this year we were obliged to put up a large building, 150x50 for our fruit. This is an off year for the fruit, but for the overflow we had to put up a tent besides. It was the premium list.

A DEMONSTRATION IN APPLE COOKERY.

By Miss ANNA BARROWS, School of Domestic Science, Boston.

Instead of saying much about apples at first, I will speak of the methods used in cooking schools so that you will understand our work. The cooking school in this country is comparatively a new thing. Those who are teaching are very dependent upon the experience of the housekeepers who have gone before. We are trying in the cooking schools to bring together facts and good suggestions to help the housekeeper, not trying to make things so elaborate that the housekeeper will not find the time to carry them out. The first cooking school in this country started less than four years ago, and cooking is now a part of the training in schools in large cities. I think all ought to have some knowledge of the preparation and cooking of food so if we have occasion we may be able to prepare food for ourselves or direct others.

The schools are not simply to teach cooking but certain knowledge of physiology is taught as well. Here we have to learn a great deal from the experiments of farmers in keeping stock. We learn from them that we need certain foods. The food which the human body needs is arranged in different proportions by different authorities. They all agree that we must have water, starch, fat, albuminous matter and mineral matter. We need a great deal more water than anything else, as three-fifths of the human body is water; next is starch, next fats and albumen and a small amount of mineral.

I have brought with me some bottles which show the comparative analysis of the apple, as prepared at the Massachusetts Institute of Technology: Water in one pound of apples, 85.79; pectine in one pound of apples, 5.81; sugar in one pound of apples, 7.22; organic acid in one pound of apples, 82; cellulose in one pound of apples, 1.5; mineral matter in one pound of apples, .5; protoids in one pound of apples, .36.

You will see that the apple does not contain any starch and that it does contain a large proportion of water, a large proportion of mineral matter and acids.

Apples combine very well with starch and we get from them the flavor we need. In all foods we need various proportions of starch and fat in order to make a dish which would be satisfying. We know that apples alone would not be a very satisfying dish. When combined properly with other ingredients we get something that is satisfying. A great many of our cooked dishes of apples are dishes which we have for desserts, and we are inclined to treat these things as if they were not solid substances. We look upon them as an addition to our meal and do not consider them as of any special value as food. We make the mistake of eating a hearty dessert after eating a sufficient amount of food. It would be better for us all if we ate more fruit and less substantial food. If we would take more watery food it would be better for us than so much solid food.

I will illustrate the method of teaching in the school while I prepare this dish. Every detail of the work is explained to the young girls and children as we go along, so they will begin with right habits of work and make it easy for them as we go along. In making the dough I take one pint of flour, one cup of sour milk, one heaping teaspoonful of cream of tartar and one even teaspoon-

ful of soda. One-half of the teaspoonful of soda is for the sour milk and one-half for the cream of tartar. One-half a teaspoonful of soda is enough for a cup of ordinary sour milk. Butter can either be melted and put in or can be used without. I do this work before cutting the apples because they are apt to discolor before they can be used. I use a tablespoonful of butter in making a pint of flour into biscuit. The quantity of butter must depend upon the liquid used for mixing. When we use water we require more shortening than when we use milk.

One of the first lessons in our school is the baking of an apple. The very first lesson of all is building a fire, because no cooking is possible without fire. We find the children are interested and try to cook things at home and report to us their successes or failures. A perfect apple is best baked whole but an imperfect apple is better cored and the place where the core was filled with sugar, or spice or jelly or something of that sort. The children take turns in watching the apples and tending them while baking and thus have a great interest in the work.

This is pastry flour, I prefer it for cooking anything of this sort. The bread flour is better where yeast is used. If I was using the bread flour in this case I would use a scant measure, a smaller quantity. The different amount of liquid depends upon the flour. If we use as much liquid as flour we have a batter; one-half as much, a stiff batter; one-third as much; a soft dough, and one-fourth is for pastry. In putting in the butter it should be softened and not heated hot as it would injure the quality of the baking powder if we used hot butter. The gas escapes much quicker when you pour hot water over it than it does when you pour cold water over it. I will fill the apples for three dumplings with jelly made from apple parings. I then take the apple and place it in the centre of the dough I have rolled out and fold the dough around it and place it in this little cup. I place this in the kettle containing boiling water, taking care that the water only reaches a little more than half way up the sides of the cups.

In making dumplings for stews no shortening is put in because the meat gives sufficient shortening. In stews the water should be rapidly boiling when the dumplings are put in, and should not stop boiling until the dumplings are taken out. We make the dough thinner for a stew and make the dumplings by dropping them from a spoon. I find that there are a great many of our

receipts used as they were years ago simply because they were always done that way. In dumplings for stews I use no shortening and make them a little thinner.

I have made a syrup and will cook some apples whole in that. I will use different kinds of apples and see how they will cook. This is a heavy syrup, twice as much sugar as water. An apple will not break up in it as much as it would in water. This is a good way to make a handsome dish of apples. The apples are first peeled and cored and may then be used cut in different shapes or may be used whole. I am very fond of making a pudding'sauce of the skins and cores of apples. There are many cases where we should do very well by leaving the skins on the apples unless the skin is very imperfect or very tough. The larger part of my life has been spent in Maine and I know something of the difficulty we have to contend with as to the distance from the markets and I wonder that we don't make more use of the apples that are at our hands in this State.

One thing we cooking schools are accused of is teaching the use of too many utensils. It is certainly desirable to use these utensils for they will make the work so much easier in the kitchen. I am sure one reason why young girls are not willing to stay at home and work at home is because of the lack of proper utensils and because the father does not think the work is worth any pay. If these things were changed perhaps we should have more people living in the country and fewer in the cities. I hope to see that time when there will be in every agricultural experiment station a department for kitchen experiments. I had occasion in preparing for this talk to-night to look a little more into jelly making. I wanted to study it a little more. I looked in all the books I had and found only a few lines in regard to pectin or pectos which is an essential point in jelly making. I went to a lady in Boston who is a well known chemist and told her I had found the terms pectin and pectos used by different writers and had come to her to inquire about it. I thought these terms were used sometimes in one way and sometimes in another and she said perhaps so, because nobody knows much about it yet.

Jelly is the refined product of the apple. It takes considerable apple to make a little jelly. It seems to me it might pay to market apples in this form. I had occasion some time ago to use some jelly that I made some two years ago, and I could not see

that it was any different from jelly made this year. We might do well to study the question a little more although some things we do know we don't quite live up to. We don't seem to realize how much difference little things make. Suppose the apple skins are not used for some time and left to be discolored, then if we should cook them in an iron kettle and don't happen to skim them and then put them in jars that are not perfectly clean we may be sure our jelly would be of an inferior quality and would not keep well. We must be careful of the details of the work.

Whatever may be the name of this substance, whether pectin or pectos and whether both may not be used, it is certain that it is a gummy substance, it is not exactly gum or mucilage but something like it. It would be classed under the same head as starch but still it is not starch. It is that which gives the firmness to our jellies. It seems to be most abundant in fruits before they are ripe and this shows why over ripe fruit makes a syrup rather than a jelly. When apples are used in making jelly if we put an undue amount of water with them when cooking we have a good deal of juice afterward, but it is not so much the juice of the apple as it is the water we have added. It is best to have only enough water to keep the fruit from burning. It is best to use an agate kettle and an agate or wooden spoon in stirring. Apples make the best jelly when they are not fully ripe. The proportion that is best is about one pint of sugar to one pint of juice. We shall have a very sweet jelly if the juice is mostly water that has been put in. The jellies of different kinds of apples will act a little differently. Late in the season we may combine other fruits with the apple. We may improve an inferior apple very much, if we are obliged to use an inferior apple. It is a very convenient fruit to combine with other fruits. It combines well with the quince and with the pine apple and with other fruits. Of course they will not be quite equal to the fresh apple but will be quite good.

Ques. In using apple parings should not great care be used in having them perfectly clean?

Ans. Certainly, any dark portion should be removed and the apples should be wiped. Sometimes I use the cores with the skins. Sometimes in making apple butter I flavor with almond to make up that little almond flavor which we have in the seeds. Apples may be simply baked and served as a vegetable with meats. Apple stuffing is good for goose.

I have here a tumbler of marmalade. This may be shaped into little balls and rolled over in sugar to keep the shape and this could be used to take the place of candy in family use. If they are kept twenty-four hours and then rolled again in the sugar they will be much firmer and better.

There are many methods of preserving fruits, first is the old fashioned method of preserving pound for pound which kept for an indefinite period of time. Then the canned fruits which do not keep well unless the air is excluded. This canning of fruit is comparatively a new thing. As chemists and others are studying bacteria more, we find how very necessary it is for us to be very careful in having our jars heated before we put the fruit in them. It is not enough to simply rinse out the jars and simply scald them, it is better to put them in the oven and give them a good baking in order to kill the germ which may interfere with our canning. It is necessary to keep out the air perfectly. We think old rubbers will do just as well and we don't always think it is necessary that this part of the jar should be as well heated as any part of the jar, so we let a few germs of mould get into the different jars we are putting up.

The great point in making jelly clear is skimming the jelly thoroughly while cooking. It is not necessary to skim it so very many times only be sure the skum is thoroughly removed before it is boiled into the rest. I think the jelly process should be very gradual, I think it should be evaporating rather than boiling. There are many ways of putting sugar into the jelly, and perhaps the best way is to allow the fruit to boil a little while and then add the sugar. In using apples about two-thirds as much sugar as juice is sufficient when care is taken that there is not too much water in the apple juice.

To make a nice beverage for an invalid from apples we may slice them and cover them with boiling water and let it stand for some little time. Then the skin of the apples in this way will give up a large amount of its color and part of its flavor. The bright color will often attract the invalid who is tired of lemonade and all such things as that.

If we want to further flavor these apples we are cooking here, we can put a piece of cinnamon bark in the syrup or any whole spice rather than put the apples into a liquid that has ground spice in it; it would injure their shape a good deal. A very pretty way to use

apples cooked in this way is to make an apple snow by beating the whites of eggs with the apple pulp and use the yolks of the eggs for the custard, the whites for the snow. I use the yolks only of the eggs. Two or three yolks to a pint of milk. If we use six yolks to a quart of milk and the six whites for a cake we use no more than we should if we had used three eggs for the custard and three for cake. In making a custard pie the white is needed; the yolks of the eggs contain more oil and so make a richer, smoother custard, but would not make quite so firm a custard.

These apples I have cooked in the syrup make a very pretty dish simply arranged on a plate and filled with jelly.

From the syrup in which I cooked these apples I will make a sauce for the apple dumplings. I generally add the parings of bright red apples to the syrup to color it but in this case I will put in a little of this jelly made from the parings of apples, as I am in a hurry.

(As fast as the apples were cooked they were passed through the audience to be tasted and inspected.)

Before I close I will make one more dish and that will be a jelly omelet. An omelet is sometimes good for dessert. I am going to make it as a dessert to-night with jelly on it. If you wish you can make in exactly the same way and leave out the jelly and you have a very good omelet for ordinary purposes. The rule is, two eggs, two tablespoonfuls of milk, a very little salt and a teaspoonful of butter and sugar. The whites are beaten to a froth separately, the yolks added afterwards, one teaspoonful of butter and sugar and a little salt. In the ordinary omelet we put in a little pepper and omit the sugar.

FEEDING APPLES TO STOCK.

By CHARLES E. WHEELER, Chesterville.

In the early part of the present century my great-grandfather in clearing one of the many hillsides of Franklin county set out an orchard of from six to eight acres which in due time came to bearing. In after years this orchard fell to my grandfather and was in its prime near the time I came upon the stage of action.

I recall those days with pleasure. Such loads of golden fruit! The sweet, the pleasant acid, the bitter sweet, the crimson blushes, the bright russets, such as only can be found in a large orchard of seedling trees, for this orchard was never grafted, and its product had to be used in the many ways common to those earlier days. The product of this orchard in some of the years was counted by the hundreds of bushels besides such fruit as was too soft or too early to be advisable to haul a mile where the new home had been erected. Thus you see that my early days were connected with those who must plan to make use themselves of this large amount of fruit, there being at that time little or no market for the same. To do this many bushels were ground at the old mill, certain kinds were put into the cellar for winter use in the family, and evening after evening spent in preparing the apples for drying, amounting, many seasons, to ten or twelve barrels of sliced apples, while other kinds that had proved good keepers, were placed in bins to be fed to the stock during the long winter. And besides all these, out in the old mill and corn barn were bins holding many big ox-loads to be frozen. I recall with vivid pleasure the eager expectancy of the young stock and flocks of sheep as they looked for their daily ration of apples.

Those were boyhood days so full of pleasures and blessed anticipations, perchance many of my hearers can look back upon similar events in their own lives. Times changed and this back farm or "old place" was divided between three brothers, one of which was my father, and I came to know more of the stern realities of work, and work it was, gathering those great trees with their spreading branches. But during the winter I felt well repaid as the stock flourished thereon. About this time an effort was made to engraft the trees, but the dry years of the early seventies and that year so well remembered by Franklin county people as caterpillar year

destroyed a great many of the trees, so that this move profited us nothing, and the orchard has grown less from year to year till now but a vestige of it remains.

But the lessons of those days remain and to those who have seedling trees too old for grafting, I would say, care for the fruit, feed it judiciously, and you will find a profit by so doing.

Let us consider for a few moments the apple from a scientific standpo nt, not that I lay any claim to being a man of science, but there are those who are, and they are a class of people whom I have a very kindly feeling for. These experiment station men, what a world of work they are doing for the farmers! What days of doubt and trials they are saving us! We are no longer obliged to grope in uncertainty and doubt as in years that are passed. Not only do they work out these problems for us but they lay upon our tables the results so that he who runs may read and profit thereby. These men tell us that a large amount of the apple is water, but by comparison, we find it contains no more than many other foods. From the third report of the station at Amherst, Massachusetts, we find that R. I Greenings have 84.65 per cent of moisture; sweet apples, 75.17 per cent. Third Ohio report, potatoes, 78.65 per cent; fifth Amherst station report, carrots, 90.02 per cent; skim milk, 91 per cent; corn ensilage, 71.60 per cent. From the Vermont report of 1888, that Harris Globe Mangolds, 94.34 per cent; Brewer's Grains, 78 34 per cent Yet in comparison with other foods we learn that a ton of apples are valued at only sixty cents per ton, with wheat bran such as fed at the Amherst station, \$15.42.

This brings us to the point of consideration. The careful pains-taking farmer well knows that a ration in which is included apples, beets, carrots or turnips, will put on a finish of flesh to beeves or mutton and to the dairy cow a certain heartiness and grand powers of assimilation so much desired. So to that farmer who has seedling apples, I would say from experience feed them, feed them each day at just such a time in the day and you will prove to yourselves that they are worth many times six'y cents per ton.

To farmers who winter shotes good use can be made of apples and milk, especially can frozen apples thawed in water to which is added some bran or flour be recommended for breeding swine.

Vermont Station in 1888 reports on apple pomace and to those owning mills or living near that the pomace can be obtained

without too much trouble may gather something of advantage from this report which I will read.

It has often been claimed that apple pomace has no feeding value and the practice of almost all the cider mills in throwing away the pomace, shows that this belief in its worthlessness is widespread. Chemical analysis has always said that there was considerable feeding material in pomace, and the station undertook to find out whether this was so. As the pomace from the mill would not keep, it was determined to put it into the silo and see whether by exclusion of air it could be preserved; the result was a perfect success. About six tons of pomace was put into a small silo six feet square, each load was leveled and tramped down firmly, and when the last load was in, the whole was allowed to stand and heat to about 90°; it was then covered and weighted with stones about 50 pounds to the square foot. The heat decreased at once and when the cover was removed a month later the pomace was found in a state of perfect preservation, and remained so during all the weeks that we were feeding it. The milch cows like it exceedingly; when there is any in their mangers, they take it in preference to any other fodder we can give them and eat it all before beginning on hay or corn fodder which was usually given with it. There was no decrease in the milk flow, as has often been claimed to be the result of feeding apple or pomace, and we probably get from it the full feeding value as indicated by chemical analysis. We feed ten pounds a day in two feeds of five pounds each, night and morning. Feeding in this way a cow would eat a ton during the winter season, and there can be no doubt that it would be a good investment for any dairyman to put up for winter as many tons of apple pomace as he has cows.

Now Mr. President and Fellow Workers of the State Pomological Society, you, I doubt not, query in your minds regarding my faith in the assertions presented. I say in all honor to you and the principles of our Society that while they may be true, I wish to take no stock in them. By rights of purchase and inheritance two-thirds of this orchard I have referred to was once mine but I have disposed of it that I could put more time and means into an orchard that I could look forward to as producing fruit suitable for something better than feeding to swine or the golden hoofed sheep. We may in some seasons be compelled to dispose of No. 3s by feeding but no thorough-going pomologist can afford to allow a young, thrifty tree to grow fruit fit only for feeding to stock, when the

markets of the world are crying for Maine grown apples. You cannot even afford to feed wormy Baldwins when men are clamoring for canned goods at \$2.40 per dozen, and it is a fact that it is wastefulness to even feed the parings when jellies are called for as they are to-day.

Advancement is the word to-day. Gentlemen, if you have an old orchard that is producing seedling fruit, take care of that product, but don't allow a single tree in the orchard, field or pasture, or by the roadside, that is healthy, no matter how scrubby, or how ill its shape. Change it to some profitable variety, and although you may not receive the full income therefrom, some traveller along the road or the children in their strolling through the pasture may eat and think of you with pleasure.

PLUM GROWING.

By S. D. WILLARD, Geneva, N. Y.

About twenty-five years since, having learned of the success in plum culture which had followed the efforts of those engaged in the work on the Hudson river, it occurred to me that results equally satisfactory might be attained on the good lands in the western part of the state.

With the soil and climate adapted to the work, shipping facilities unsurpassed and a market that readily absorbed all that they produced, at profits far in excess of anything we could ever hope for in apple growing, I found the plum orchard men the happiest fruit growers of the times.

The fruit was picked, dumped into barrels, put aboard of steamers the same day and landed in New York before daylight the following morning, and with no competition, sold at prices which in some cases, netted the shippers from \$300 to \$500 per acre, per annum.

Are you surprised that an enthusiastic fruit grower should decide without much deliberation that plum growing 150 miles westward on as good land as the state afforded, was to be given a trial?

A recently planted apple orchard, two rods apart, was the only available land, a portion of which was forthwith planted with 300

plum trees, alternating the plums between the apples with the idea that by the time the apples had grown so as to require the entire space, the plums would have exhausted their energies and ended their existence. The plums began to produce a paying crop the fourth year from planting, and with the exception of one or two off years, each succeeding year increased their crops for several years following. They were the admiration of all who saw them, many of whom had ridiculed the idea of growing plums so far from the markets of our great cities. Indeed, they had been pronounced "Willard's Folly," but net returns of ten to twelve dollars per tree was an argument beyond controversy, and an impetus was given to the business that has been followed by the planting of thousands of trees in that vicinity, many of which, from a lack of intelligent care, will never realize anticipated results. The seventh year from planting the Baldwin orchard, set with one year trees, made an average of one barrel to the tree, but \$1.50 per barrel made the net returns so insignificant as compared with the plums—while both had been treated with equal liberality in food, made of barnyard manure, wood ashes and bone meal—that I well remember saying to my wife one evening when riding through the orchard, "I am about to dig out those apples and fill up with plums." She plead for the apples, and my confidence in her superior judgment caused deferred action until a few years later, since which time seven-eighths of them have been dug out to make room for those that will give quickest and more profitable returns.

The old plum trees originally planted have been a source of a fine income. Many have died of late and others show the infirmities of age. But other fields have been planted so that several thousand trees are now included in our acreage. I fancy many will say as others have said, "Well, I would never have made fire wood of those beautiful apples just coming into their full vigor," in response to which, I can only say it seemed to me that life was too short and percentage too low to waste it on raising apples with the probabilities all on the side of the plum.

But the question to be treated fairly, should be viewed from all sides. The plum is a capricious fruit, requiring soil, climate and surroundings all congenial, to be profitable in its returns. Liberal food is required of the right sort. An excess of nitrogenous matter is not wanted and may be injurious, while potash and phos-

phoric acid in some form each contribute to its health and productiveness.

It is a subject of disease as much to be dreaded as the small-pox in the human family and equally as contagious. The black knot cannot be trifled with, and whenever and wherever found, should at once be cut out and burned, or the owner will have reason to regret its neglect in seeing the destruction of his orchard.

The Hudson river district is a fair illustration of such neglect. Growers allowed it to get beyond their control before effort was made for its extinction, and to-day, wherever you see a plum tree the black excrecence often covers its entire surface. Plum growing is a thing of the past. Those promising orchards are destroyed, and until all are burned and the fields themselves renovated by fire, it would be the height of folly to plant others.

Wherever the plum will grow the black knot may be expected and it must be watched. Perhaps science may yet teach us how to render this valuable fruit impervious to the action of this disease. Experience has shown that it may be quarantined and held in check by the exercise of care at the proper time. Twice every year the orchard should be carefully examined and every vestige of it should be cut and burned.

While an orchardist may thus protect himself from the disease as it may develop on his own premises, he has no insurance as against negligent neighbors on whose trees may be found the black excrescences without number, the spores or seeds of which may be carried by the wind for several miles to find their lodgment on fresh soil to the surprise and dismay of the most diligent and careful cultivator.

We believe that the only protection that can be afforded against this most destructive agent to all growers of the plum, is the enactment and rigid enforcement of a state law that shall make it an offense punishable by imprisonment and a wholesome fine, for any man to allow a tree infested with the disease to be found growing upon his premises, and that commissioners should be appointed in every town at town or county expense, whose business it should be to see that the law is executed to the letter. This for those sections where the cultivation of the plum may be prosecuted in a large way in the commercial orchard.

Another serious drawback to the health and vitality of the plum is the leaf blight, but recent experiments at our experiment sta-

tions have taught that a few sprayings of Bordeaux mixture in the early season will generally provide against the defoliation that follows the work of this form of fungi. A healthy and productive plum tree requires a healthy foliage carried well into the autumn, and only such a tree can be depended upon to give the most profitable returns.

The curenllo, the insect so destructive in its depredations upon all stone fruits is exceedingly fond of the plum, and as a rule, selects the choicest sorts on which to do its work. It begins its work upon the dropping of the bloom, especially if the weather is warm, but a daily jarring of the trees at this time upon sheets prepared for this purpose and a destruction of the bugs as caught for two weeks, will usually insure the crop from further trouble in this regard. Various plans there are to accomplish the same end. We have found the hugging machine, as it is styled, to answer our purpose well, and quite economical in its work. Others spray with arsenical poisons, while many question its utility and fear damage that may follow their use upon the foliage.

We will next touch upon varieties that we have found most valuable in the commercial orchard. In this, hardiness, productiveness, and market demands, are the factors to be considered rather than those qualities that satisfy the taste of an epicure to eat from the hand. Very few of the plums produced are used except for preserving in one form or another, hence, we argue in favor of those sorts of known value for these purposes, combining the first named conditions with a disposition to best resist prevailing disease heretofore referred to.

The Reine Claude de Bavay is without question the most profitable of all plums, and but for its tenderness, it would head the list for popularity. But in the most favored districts of the Atlantic states it is at best but short lived. The Lombard, well known and exceedingly productive, is everybody's plum, and with its great freedom from the work of the curenllo, is justly entitled to its popularity. But as every one raises it, and the season of ripening so often brings it in competition with the glut of Southern peaches, we have thought it desirable to grow it only in a moderate way and push to the front sorts both earlier and later in maturing, which would command the markets for the longest possible period in the fruit season. Hence, we commend the Field, ripening ten days in advance of the Bradshaw, followed by Bradshaw, Guii, French

Damson, Hudson River Purple Egg, Coe's Golden Drop, Italian Prune, Stanton, and Monarch as embracing a list large enough and covering varieties worthy of trial for test purposes for any one desirous of embarking in the business.

Others could be added of nearly equal value, but these out of fifty varieties now being fruited have been selected, while many more have been discarded for lack of sufficient productiveness, weakness in constitution or other causes that unfitted them for continued cultivation. Some of them were imported from England and France, while some others imported at the same time here served to swell the number of those of no value in the commercial orchard.

Please bear in mind that, as a rule, the light colored sorts are the most tender, hence, when hardiness is an essential factor, we shou'd say plant largely of those of dark color.

Many sorts can be grown with best results by top grafting or budding on other sorts. Plant Lombards and work over the second year. This method we advise best for both Reine Claude, Coe's Golden and French Damson.

So far, reference has been had to only European varieties, or those known as such or their seedlings. There is, however, a class of plums now attracting attention over a wide spread section of our country that seem to have a foliage so thick and rugged as to be able to resist the attack of all forms of fungi, and fruit buds that will resist winter's cold to 20° below zero with productiveness unsurpassed by any of the old European sorts. I refer to the Japan plums of which already quite a large family has been introduced which are being tested quite generally from the Pacific to the Atlantic, but as the name Botan—which, as I understand, is the name applied to one family in Japan, of which there are many differing more or less in some respects—has been attached to many as they have been disseminated in this country, I apprehend that much trouble will follow the question of nomenclature.

At the suggestion of a friend in the Department of Agriculture at Washington, I obtained the Burbank, which, so far, has shown itself to be the most hardy and productive of all, and where there may be dangers from spring frost doing damage to early opening buds I should commend this in preference to any of the others so far tested, as it is later in unfolding and opening its protection to the fruit germs. We have had branches of this variety that

matured one hundred perfect plums to the square foot, size, medium; color, beautiful; light purple on a yellow ground work, ripening from first to tenth of September. In point of quality nothing equals or surpasses the Yellow Japan, which ripens from one to two weeks earlier, is larger, but I fear may not be quite so hardy, but in general color and beauty excel them all. Another received under the name of Botan, and which we labeled No. 26 to avoid confusion, while the poorest of all in quality ripens about July 15th, and being so early, productive, and very hardy, seems to be finding its way into favor with no effort to push it, and may be regarded as having value in sections where hardiness is essential. As it seems impossible to trace its origin save from an importation of scions that came in from San Francisco several years since from Japan, one of my friends who has been interested in its dissemination, has seen fit to name it the "Willard Plum."

The terms hardiness, however, as applied to the plums we raise, is so little understood that a word in this connection may not be out of place. My observation and experience has taught me that a variety pronounced hardy in ordinary seasons and carrying its fruit buds safely through 20° below zero weather, if by the work of fungi or other causes, is defoliated early, so that its wood fails to be properly matured will show extreme tenderness and suffer in a mild winter so as to fail of a crop the following season, and this feature, if carefully watched and understood, will often account for the varied reports often had as to hardiness, or lack of same, on the same variety grown in different sections and under different circumstances, and suggests the idea whether or no the judicious application of proper plant food at regular periods may not aid materially in the development of such a growth as is needed to produce those essential conditions required to make what we denominate as hardy trees. I am in receipt of scores of letters annually, inquiring if I think plums may be successfully grown on their soil or in their latitude. If south of New York city I invariably say very doubtful, but if in latitude forty-four or a little south or north with other required conditions, the probabilities are in your favor. As to soil, if provided with the proper elements, it seems to make but little difference whether composed of the heavy loam of Western New York or the light sands of Michigan found on the eastern shores of that great lake. Some of the finest crops I have ever seen produced have been grown on those light soils, and hundreds

of acres are being planted annually to find their market directly across the lake in the cities of Milwaukee and Chicago. These lands, however, have been but recently reclaimed from their original forest growth of pine and maple and are rich in all elements of plant life.

PLANT FOOD IS PLANT LIFE.

We have ever believed in the most liberal feeding possible for all fruits that are produced, but we believe this often requires the exercise of greater intelligence than is possessed by the average farmer, and we rejoice that our experiment stations are affording information and aid that is enabling the fruit grower to apply science to his work as never before.

We for years labored under the impression that the more barn-yard manure we could give our plum trees the better. It was a mistake, too much nitrogen and too great a growth of immature wood with a corresponding growth of fungi as the result. Latterly we have ascertained that potash and phosphoric acid give us a harder, better wood, more rugged foliage and fruit buds better fitted to produce a heavy crop of fruit. Wood ashes alone are very valuable, and if called upon to decide the question as between wood-ashes and barn-yard manure, we should certainly take the ashes. The question is often asked me, when would you apply them and in what quantities? I should say at any time when we had leisure, and all that we can get money to pay for.

PRUNING.

Judicious pruning and thorough thinning of the fruit are each important factors of the work we have in hand, and neither can be ignored except at an incalculable loss in the future of our orchards. "Train up a child in the way he should go" comes in with equal force when applied to the growing young plum orchard.

Beginning with the second year after planting, the young orchard should be looked over carefully annually, and the previous year's growth should be cut in, removing from one-fourth to one-half of such growth, thus forming a strong compact head and the development of the fruit spurs near the body of the tree, where the future crop may be carried with safety against violent storms and lessening the liability of the limbs being broken and split into pieces.

It should be borne in mind that the wood of the plum lacks the tension which is found in the apple and pear, hence, will not stand

equal strain. Nor can any lack of care at an early period of growth, touching this question, be met and overcome by efforts in after years when "the saw" must be substituted for the knife in an effort to make good lost opportunities. Orchards there are where this principle has been practiced with heads as round and symmetrical as the most beautiful formed horse chestnut you ever saw. The work should be carefully followed any time after the tree becomes dormant in the autumn, and through the winter when the tree is not filled with frost.

THINNING OF THE FRUIT.

A subject of no less importance, oftentimes involving the health and even vitality of the tree itself, is the proper thinning of the fruit. The average quality rarely sells at any thing over average prices, while the large, well developed specimens only, bring the high prices that afford the largest profits, and such fruit is not found on trees over loaded beyond their power to properly mature.

In every department of nature the effort of reproduction so taxes vital forces as to make it a weakening process, and in none of our fruits is this more manifest than in the plum which is often so depleted from a single year's over production as to never recover from the injury inflicted. It is not the fruit itself, but the draft upon the energies of the plant to perfect the pit, that reduces its vital powers, and often leads to premature death, hence, we say, after the dropping which usually follows the setting of a large crop, the wise plum grower will often find it an advantage to have removed one-half of that remaining, and as a result, the marketable crop increased, quality greatly improved, and trees with their vigor unimpaired to at once begin to store up the necessary material for another crop. A lack of the exercise of a little common sense in this regard on the part of many a man has destroyed more plum trees than the damage ever inflicted by the curculio, indeed, it has often been a grave question in my mind whether the work of this insect might not after all be a blessing in disguise.

So closely connected with the question of thinning is the time of picking that the two should be considered together. Unlike the apple, pear or peach, the fruit of the plum is very seldom purchased for eating from the hand, indeed, the varieties that have any value for this purpose are exceeding rare, especially when considered in the light of those that may be profitably produced in

the commercial orchard, therefore, we say, at the earliest practicable moment after fully grown and colored, while yet quite hard, pick and dispose of, even though a week later, might show a material advancement in prices. They will ripen to a certain extent after being picked, and at this stage of ripeness they meet the requirements of the purchaser, will stand up well for distant shipment, and relief is afforded to the tree which at once begins to store away its supplies, to restore exhausted nature and equip itself for another crop.

Prices are quite apt to advance later in the season, and the temptation to allow the fruit of sorts not inclined to decay to stand on for a week or two, is hard to resist.

Ten pound baskets that have been selling at seventy-five to eighty cents have advanced to \$1.25, and finally to \$1.50. One of my friends with a crop unthinned and double in quantity what the trees should have been burdened with, had this question to meet a few years since. He allowed them to stand, until finally he picked them from the ground and \$1.50 per basket. A severe winter followed, and with little power of recuperation left many of the trees the following spring were gone, while others have not regained their lost power. An object lesson worth remembering.

We believe that our fruit should be carefully picked in baskets provided for that purpose, carted or removed to the packing house, and if the weather be hot, allowed to stand until cool, or if possible, picked only in the morning and late in the afternoon, so that when packed for shipment no heat may be found in the fruit, and that the best results will be found in the observance of these rules, the fruit should be carefully sorted, packing and marking all inferior fruit as No. 2.

We believe that the best results in fruit growing are often obtained by growing a variety of fruits, hence, we should say, if practicable, in connection with plums grow more or less of small fruits—sour cherries and pears, but in any event, plant more than a single variety of whatever you may plant and so alternate varieties that you may be sure of cross fertilization or perfect pollination of your bloom. Our highest authorities on this subject to-day urge it as one of the most important measures to be considered.

CULTIVATION.

The subject of cultivation is one of such importance to the plum grower as to deserve serious attention before we close this already too lengthy paper. Plums cannot be profitably grown in grass, nor do we believe that weeds should be permitted to devour the elements of fertility that have been so wisely and liberally bestowed upon our orchards. But please do not forget that thorough cultivation does not by any means imply the deep two horse plowing that is often bestowed upon the apple and pear. The plum, unlike those two fruits, is a surface rooting tree, and may be seriously injured by destroying its roots which extend in every direction much further than the casual observer would at first suppose.

By thorough cultivation we do mean, keeping the soil as thoroughly stirred as is possible during the process of fruit making so as to destroy all weeds and aid in rendering available every particle of plant food for the growing crop, but at the same time, doing this by the most shallow culture possible. We have found a light gang plow and spring tooth harrow, two very serviceable and economical instruments in obtaining this end.

Much more there is that might be said on various points pertinent to the subject, but I will close by simply saying, I believe thoroughly in plum growing as a profitable venture where plum trees will grow and thrive, but only on good dry land. And now thanking you for your kind attention, I should be only too glad to answer any questions that may have come to the mind of any person present.

DISCUSSION.

Ques. Wouldn't a spring tooth harrow do without the plow?

Ans. That would depend upon the soil. Our soil is quite a tenacious soil. Sometimes year after year where land is cultivated and has not been seeded, many weeds have appeared. We would say the gang plow is sufficient on these things but the spring tooth harrow has cut off these weeds.

Ques. What do you think of the Quackenbos?

Ans. The Quackenbos is a large plum exceedingly hard, but I was sold more on this than on any plum. In the first place, we didn't make money enough after I planted 1000 at one time. I had a pretty fair crop after girdling the trees. I have never been successful since then.

Ques. Have you tried Moore's Arctic?

Ans. I speak from my standpoint: it is very defective in foliage with us. The quality is exceedingly low and it is sort of a dead color and most of the ladies want fruit for culinary purposes that is very attractive. Chase and I were looking over Moore's Arctic and he said, "I am just disgusted with that. I have been talking and selling it all over the country and it is not worth anything. We have got to cater to the wants of the people."

Ques. How near to the trees do you run the gang plow.

Ans. I don't run the gang plow very near to the trees, about five feet. Run the harrow nearer. We cultivate both ways with the harrow and only one way with the gang plow.

Ques. How far apart do you set your trees?

Ans. About sixteen feet apart one way, and the other way you may have them closer if you wish. You have got to have them so that you can run your bug machine through. That bug machine is so constructed that you can run it between rows sixteen feet apart. Some varieties grow very upright and don't need so much room. We have some that are not more than eight feet apart, they are the upright varieties, but I would not advise that, for where you do you have to do high feeding. The Quackenbos takes up as much room as the apple and it is good for nothing.

Ques. Are you troubled with black knot?

Ans. In relation to the black knot, I have studied it quite a little. It has always puzzled me how it is that it goes right to the heart. You take one just started and you will find it reaches to the heart of the tree. If it is a fungus how is it that it eats to the heart of the tree? It is very much like a cancer, in its nature, it is death.

Ques. Is it impossible to restore trees after once attacked by black knot?

Ans. Not at all.

Prof. MUNSON: This black knot grows within the tissues of the wood. The part we see is the fruiting portion of the fungus, the plant itself is simply a plant growing within the other plant, the plant itself is within the tissue.

Mr. WILLARD: I find in cutting it out that if you will watch it closely you will find that these little threads run down. We have found that a little kerosene is very effective. I can do these things but I would not give that as advice to others. I won't allow the boys to use the kerosene, I want to do that myself, it wants to be

used with a feather and applied very judiciously. We don't like to have it run around the trees, but I want it to penetrate as far as the threads go.

Ques. What is your method of engrafting?

Ans. There are two or three methods of engrafting. I cut my scions before cold weather, then I put them in the icehouse where the sap will be perfectly dormant, then as early as the sap flows in the spring I engraft. I have two methods. If you understand budding I can explain about one of them. (Here he explained and illustrated grafting in relation to budding.) This method I got from some plants that were imported from France and I thought if it was good for a Frenchman, it was good for an American. The great thing in plum grafting is having the buds perfectly dormant. All of your seed fruits graft more easily than stone fruits.

Ques. Do you have green lice on your trees?

Ans. Oh yes. We treat them to a good spraying of whale oil soap and tobacco. It is the best thing I know of.

Ques. Doesn't the whale oil soap injure the foliage?

Ans. Not at all. I can't tell the quantity used because I leave that to the farmers. The tobacco water is better than the whale oil soap, but the whale oil soap in a good strong suds will make the tobacco adhere.

Ques. Is your method of applying bone meal and ashes entirely on the surface?

Ans. Entirely on the surface.

Ques. What proportion of bone and ashes do you use?

Ans. We take them and put them on by the handful. We don't mix them. It makes a little difference as to the fineness of the bone meal. If it is pretty fine put on four handfuls. We use very largely of wood ashes and potash.

I referred to a bug machine very frequently in the paper which I read this morning. The machine is used especially for catching and destroying the curculio which makes such havoc with all our stone fruits. The curculio is the worst thing that the plum grower has to contend with. We used to use sheets stretched on bars but we found after a time that it took a man and a boy to run these sheets. A man would carry one end, the boy the other, they would surround the tree and the man would jar the tree with a sort of a crutch arrangement and the concussion caused the curculio to drop off and then they picked them up and crushed them between the

thumb and finger. Anyone who knows this bug, knows that he plays possum and curls up to look like the bud of the tree. We found it cost us on an average of twenty-five cents a tree to do the bugging and I thought we must employ some cheaper method. So one of our mechanics went to work and arranged a machine something like an inverted umbrella. The inverted umbrella is placed upon something like a wheelbarrow. The arms extend on either side. A man pushes it along, it is perhaps ten feet in length and is arranged upon low wheels of the diameter of perhaps two feet so that the machine can be pushed against the side of the tree. There is a slit cut in one side of the umbrella so you can push it against the tree and the tree comes to the apex or where the staff would be in an umbrella. Then as you jar the leaves of the tree the bugs drop and go on the sheet. Just at the apex of the umbrella there is a little tin drawer into which the man brushes the bugs that have fallen into the umbrella and so he goes through all the trees. At the end of the row there is a peanut roaster where he empties the contents of the tin can. That is the machine and it costs us about ten cents per tree if a good man works as he ought to work. With that machine the work is done quite as thoroughly as you could do it with sheets or any other method. We go over them right along every day, we skip Sundays, the bugs keep at work, Mondays they are pretty thick, we have to go over them at least twice Mondays. We follow that up for a week or ten days and then we do it every other day. About the third week you would not find many of them. That is about the modus operandi of running that machine and catching the bugs. In the morning they are more dormant, they are not so active as they are at noon. The curculio is a rascally fellow. They will deposit an egg in one plum and then go right to another plum and so they will destroy these plums as rapidly as I can talk.

DISCUSSION—THE ORCHARD.

Mr. POPE.—You may call me selfish because I don't advise men to go into this business. A man comes in here and hears stories, hears big stories about big crops that we get, and goes out and sets out a big orchard and then cannot wait for his crops. I have only induced that man to waste his money, it is a foolish outlay. It is only those who are willing to make a hobby of it that are going to succeed. I believe in hobbies and specialists. It requires more

nerve than seven-eighths of the men have to be willing to wait. We can't expect in this State as they do in Western New York, to get returns in four years. Perhaps their soil is naturally a little richer than ours. We cannot expect to get much return for ten or twelve years. A man must be a good deal in love with his business to be willing to wait ten or twelve years for his returns.

There are one or two things which I think will be brought up by others in their papers. That is the packing and sorting fruit for the market. I come in here and tell you such apples as I brought here sold for \$4.50 in Boston a little while ago. I brought here Talman Sweets, packed as they should be, sold for \$4.50 in Boston a little while ago. I sold my Gravensteins for \$5.00 and my neighbor his Kings for \$6.00. You all want to go into that, there is money in it. Perhaps my neighbor will say that his apples are just as good as mine and he will get only half the money. It is the sorting and the packing. Putting only No. 1 apples in No. 1 barrels, and No. 1 all the way through. I think Mr. Brown and Mr. True will take up this topic and I will leave this matter to them.

Mr. H. W. BROWN: The topic which I shall introduce has been brought up in all our meetings, and has been argued on ever since I belonged to the Society; still it is one that every farmer in the State of Maine should be interested in. In my own business, I have been, in the apple season, in the Boston market. I have been so situated that I could overlook the market closely. I have been on the market for the past month nearly every day, and when I saw a lot of fruit from the State of Maine or anywhere else that I wanted to overhaul I did it, I had that privilege given me.

Some apples were sent to a friend of mine. The man who headed up the barrel was afraid he was going to bruise them when he put the head in, consequently there was not a perfect apple in the barrel. That is the way a great many apples are packed. I see very few apples in the market that are packed as they should be. As I was going by the apples in the market, I saw apples from our friend Mr. Staples, and they were packed perfectly and I knew them as soon as I saw them.

Boston market wants a fine apple and they are willing to pay for it. Such a year as last year it would be better to throw away No. 2 than send them to the Boston market. They will not pay for marketing them. If you ship straight No. 1 you will get a fair price for your fruit.

I went on the market a few days ago to buy a barrel of apples for a friend. He wanted me to go with him and select them. I said to the commission merchant that I knew, "Is that a good barrel of apples, is it all right all the way through?" He said, "You ought to know, they came from Maine." He ought to have been able to say, "Yes, that barrel of apples is a good barrel of apples, they came from Maine."

A FRUIT GROWER: I think Mr. Brown is a little hard on some of our fruit growers and I want to say a word for them. He accuses us of some hard practices. I think it is a good deal overdrawn. I don't think that there are so many dishonest ones as he would like to make out. I want to put some of the blame where it belongs, on the apple packers. A great number of the apples in this State are sorted by the men that come here to buy, and I have yet to see a buyer who sorts apples as they should be to put into the local market. They think they can make more money by putting a few choice ones on the bottom and a few on the top, and perhaps that will do for shipment. I want to lay part of the blame where it belongs.

MR. BROWN: I urge you to pack your own apples and not let the buyer pack the apples. Nine-tenths of the buyers won't to pack their own apples because they say that there are so many who don't understand it, particularly the shaking in and pressing in. I think a good many orchardists have a good deal to learn in packing and sorting, that they won't get from the buyers.

PROF. MUNSON: The one point which Mr. Brown urges upon us in marketing is the desirability of those who grow fine fruit to search out the fancy markets. There is a field here which comparatively few will enter, and it is the field which is the most profitable one in the line of orchard culture. One man in New York state, George T. Powell, is in the habit of sending pears right to the home of pears, in Belgium, and outselling the growers there. He gets more out of his pears by sending them to Europe than the growers in Belgium can make. Now it occurs to me, that with some of our very finest fruit, we can wrap each fruit in paper and sell in crates rather than in barrels, and sell to some of the fancy dealers or to the leading hotels. If you have fine fruit you can easily get a contract with some of the leading houses, and in this way making more money than by selling to the commission merchants of Boston. That, it seems to me, is where we must look

for an outlet to our finest fruit and where we must look for the greatest profit on our finest varieties. Of course that would not do with all varieties, we could only do so with the finest.

Ques. What sort of a barrel is best?

Ans. Most fruit men would rather have good, clean flour barrels for apple barrels than any other kind. Fill your barrel one-third full and shake it down and fill up two or three times and put a peck on top, and press in the head. Of course it bruises a few on top. if you have large ones on the top and small ones in the centre they will say that barrel will not run that way all through. Even if you have to make two classes of No. 1's, the largest size and another size, don't put them in together. For you can make a barrel of the largest size and call them fancy apples. Head them up and press the head in and mark the other end of the barrel. It is well to put a paper on both ends of the barrel Mr. Pope has a head made of paper stuffed with excelsior I think, which protects the apples.

Mr. POPE: The cracker barrels come with pasteboard tops and the apple packers in our portion of the State use them for laying over the bottom of the barrel, then place the apples in and place one over the apples before you put the head in I have been making a head of pasteboard covered with one-half inch of excelsior and putting one in for the bottom facing and then putting one on the top which prevents a great deal of this bruising and the Boston commission men said it was just the thing. If you are going to get \$5.00 or \$7.00 per barrel instead of \$2.00, it will pay you to take considerable pains. You can make these at home and if you are going to get \$1.00 or \$1.50 per barrel more you can afford to take the pains. I think a peck is a little too many to put on top, there is such a thing as pressing them in too hard.

Mr. KNOWLTON: It is a curious fact to me that you may go through our own State, I don't know how it is here because I have had no opportunity of going to the stores here with respect to it, but almost everywhere in Maine you go into our retail stores you cannot find good dessert apples. If you find apples at all they are very likely to be of the kind Miss Barrows described, heaped into a barrel, all sorts, not very good ones, twos and threes together and perhaps two or three different varieties. Now it seems to me that it would be wise for us as fruit growers and fruit sellers to practice here at home some of the doctrines we preach, with refer-

ence to the apple abroad. That is, we should educate ourselves and the people who buy apples here up to the fact that there is a difference between a strictly No. 1 and a No. 2 or a No. 3 apple.

Another man around the corner who has insisted on selling apples at a good price and get good ones, has had his stand pretty well covered. He had taken pains in getting nice apples. He succeeded in getting a bushel of Fameuse, and I was interested in seeing how people went along and picked off these apples. Then he wanted some more and he could not get good ones in Farmington nor anywhere around there. He was in Boston and he saw some Nova Scotia Gravensteins. They took his eye and he bought a barrel of them and paid \$4.50 for them in Boston and thirty-five cents for freight to get them to Farmington, which made \$4.85 for the apples. My county will sell to go to Boston several thousand barrels of apples, yet that man cannot now get good apples anywhere around. It seems to me we ought to look out for our home markets. In order to do that we want to understand the difference between a dessert apple and a cooking apple, and order only apples for dessert that are good for dessert, and then when we apply the principles enunciated by my friend, Mr. Brown, we are going to find a good and steady market in the cities for our apples, and the time will come I think, and I don't believe it is a great way off, when we shall pack apples for dessert use; and pack apples also for culinary purposes. There will be two kinds. The dessert apple will be the best there is, it will be a No. 1 apple; the cooking apple will be a No. 2; there will be a difference between them, so that when one sends to market and wants a good dessert apple he will find it in a different package than the cooking apple.

MR. WILLARD: I was very much interested in the talk you had in regard to packing fruit. I think the medium sized fruit sells better when packed by itself. There is a great deal in sorting them over carefully. If you have any defective fruit, pack it and mark it No. 2 and let it go on its merit. There is this thing that is true. We can always get a great deal more money proportionately out of our No. 2 fruit than from our No. 1. We never have quinces so poor but what we can sell them.

SPRAYING AND ITS RESULTS.

By Prof. W. M. MUNSON, State College.

The one great drawback to fruit culture in many sections of the State is the trouble from disease and insect attacks. And some of you know that I am getting to be quite a crank on that subject. For two or three years, as a part of my duties in connection with the experiment station, I have been undertaking to combat the disease causing scab on apples. The difficulty is you take such an apple as that, for instance that has only one spot on it, and put it in the cellar and keep it till February, you are likely to have a fruit something like that (showing a badly diseased apple.) The point is that apples which are attacked by this apple scab fungus will not keep as well as perfect fruit. The scab will develop in the barrel. This defect is caused by a fungus whose spores are distributed by the wind and we have no means of controlling it, except in individual orchards. As the result of the work of several experiment stations we have a means of controlling this growth. For several years we have been conducting experiments in this line, and I will first call your attention to the results of the experiments of the present season which was not a very bad season as it was quite dry, and during such times the scab does not develop as in wet seasons. The case taken for comparison was from Mr. Pope's orchard. (He here used a chart showing the different mixtures used, and the effect of each.)

Another mixture called the Bordeaux mixture because it was first used in Bordeaux, France, we find the best mixture which we have used. The solution is very much modified from what was given a few years ago. Six pounds sulphate of copper, four pounds quicklime and fifty gallons of water. It is highly important that this sulphate of copper be dissolved in a wooden vessel. If it is dissolved in an iron vessel or a tin one, it will corrode it. It has been a question whether Paris green might not be a preventive of apple scab. Paris green, as you may know, is arsenite of copper. We thought that it might prevent the scab and so we added the Paris green in one case to the Bordeaux mixture, but we found no benefit from the use of this double mixture.

This table shows the result during the present year, and this table shows the results obtained during three years, 1891, 1892 and

1893. You will notice the last year was a very hard year on our fruits. This year it was much better. I have some photographs here, one tree was sprayed with Bordeaux mixture and one was not. When the fruit was gathered I photographed them. This one shows the perfect fruit at the left, the fruit badly scabbed in the centre and that which was somewhat scabbed at the right. The other picture is of a similar lot which was not sprayed.

I said over to Winthrop the other day, "I am willing to put myself on record as stating that apple scab may to a large extent be checked by the use of some solution of copper, and the best of those solutions seems to be the Bordeaux mixture."

Ques. A man in our town raised some very fine Talman Sweets. In years past I have noticed a rusty appearance on these apples. He claimed that it was rather an advantage to his apples, it showed it was of a better variety, but in coming down here I detected that on his Northern Spies there was the same color. Is it some fungous growth or is it not? You may take the apple home if you don't wish to say here.

Ans It does not appear to be caused by any fungus, it is certainly not the apple scab.

Ques. I would like to ask if this scab will spread in the cellar?

Ans. I have not carried on experiments which would enable me to answer that definitely. It is probable that it might. It is certain that the disease grows very much after it is put into the barrel.

In regard to insects. The insect that the gentleman referred to is the canker worm which gives serious trouble in many sections of the State already. The best remedy which I know to meet this is spraying with Paris green early in the season, using about a pound to 150 gallons of water. Pretty strong. Brother Pope had a little experience in spraying with Paris green for this insect last season. The remedy that is used in some localities is to tie tarred paper around the trees to prevent them from crawling up. The female moth has no wings so crawls up the sides of the tree. If we put bands of tarred paper around the tree she goes up to them but can go no farther. I treated some trees in this way last year. Some of the people here ridiculed the idea but when the season was advanced and there was no trouble with the canker worm they said "Your petticoats did prevent the canker worm after all." So it does sometimes keep them from climbing up.

The codling moth is one of the worst insects we have to deal with. That is very much checked by the use of Paris green sprayed

about two weeks after the blossoms fall. I have been often asked the question whether it was safe to eat fruit which had just been sprayed with Paris green. I may answer definitely, yes. I undertook to prove that last year. I dipped same fruit in Bordeaux mixture. this Bordeaux mixture had one pound of Paris green to 150 gallons of water, and in the fall these were taken to a chemist and analyzed and the chemist reported not a trace of arsenic. So I state there is no danger in eating apples which were sprayed early in the season with Paris green.

Ques. Is there any danger in the sheep eating the grass under the trees, having sheep running in the pasture?

Ans. I told Mr. Pope if it didn't kill his whole flock I would pay for the sheep it injured. It is certain that his sheep went around under the trees after spraying to get the wet grass and they are all living yet.

Mr. POPE: Wherever we are using this poison we cannot use too much care. You should be very careful in having it about the buildings. There is no more danger, of course, than when you used it on your potatoes. In spraying for seab and the codling moth it requires a little care. The wind may change and blow the fine spray in your face. Once our men got badly poisoned by breathing the wet air. We take precaution now to tie a sponge over the mouth and nose whenever we are spraying with Paris green.

Mr. MCNSON: There is one point that should be mentioned, we should have the spray as fine as possible, a very fine mist rather than coarse drops. The best nozzle for this purpose is that manufactured by John McGowen, N. Y. It is a new nozzle called the McGowen nozzle and is the best one there is up to date. A simple sprayer will do very well but I should not recommend it as it is too small to do much good. If I had only a few trees I would use a little pump called the Little Gem. It is a very convenient little machine costing about \$3.50. The machine that has been sold to some extent is the Lewis combination syringe and force-pump. Really that is not suitable. I would not advise anyone here to buy it as it is not suitable as a force-pump.

Ques. There is a worm known as the wire worm which is doing more damage than the codling moth?

Ans. It is the tripeta poinonella. So far as we know at the present time, there is no remedy for this insect. The best thing to do is to gather and destroy all fruit in the orchard as it falls and be

careful that no fruit from any other orchard is left to decay in that vicinity. It is a very good practice to have hogs and sheep in the orchard to eat the fallen fruit. So far as I know that is the only remedy that produces anything like satisfactory results. As you know, the fly which is the parent of this worm punches the skin and inserts the egg under the skin of the fruit. As the fly does not eat the foliage, we cannot deal with it in that way and there is no way of reaching the insect as yet.

SMALL FRUITS.

By S. D. WILLARD.

I have raised a lot of red raspberries and had them shipped to Portland and had them go through all in good order. But we found we had to pick pretty hard if there happened to come a wet day. It is no use sending them to Boston if the berries are overripe, they will throw them into the river. We lost a great deal and I made up my mind that a man to raise red raspberries must live near a canning factory and pick the berries Saturday and let them have them and work them up sometime between that and Monday. We finally abandoned the red raspberry and took the blackberry. We had complaint that the globules would turn red, and we finally concluded they were too perishable, and I said we will try the gooseberry and the currant. We tried the Houghton gooseberry, they are as small as the end on my finger, the young ones didn't like to pick them and were going to strike and all that, so we got the English berries. We were very successful in raising these for some time. We took about \$300 in one year in these English gooseberries. Everybody thought we could not raise them and I said, "Now look at them." I never thought the mildew would take me as it did other people. The first I knew the black mildew began to show itself, and it spread here and there. It was bad business. I bought a barrel of sulphur, and said, "Boys, put it on so it will smell." We put it on so thick that you could smell it out on the road. We experimented with one thing and another; and finally, this last year, we have been using the Bordeaux mixture from the experiment station where they have 230 varieties of the English gooseberries. They were very successful in the use of the Bordeaux mixture. The best gooseberry is the White Smith.

You have not quite as dry a climate as we have in New York, and you may succeed with the English berry, but the best of all gooseberries is the White Smith.

CURRENTS.

I don't believe in putting my eggs all in one basket. We take plums first. Plums are the leading thing. But we don't always get all the plums we expect to. So I say it is not a good plan to put your eggs all in one basket. If we fail on one thing, we want something to live on.

The currant crop is a good crop. I think you can make three or four hundred dollars an acre if you can get good currants. There is a difference in the currants you have on your table. Some currants are too acid; one doesn't want it all acid. The Cherry currant and the Fay are to my mind too bitter. I discriminate between what I would use on my own table and what I would sell to the dealer. If I wanted to make money I would give them the Prince Albert, they are the sourdest thing in the place of a currant; they make good currant jelly. My wife wants a white currant jelly just colored with a little red raspberry juice. She says that makes the best kind of jelly, and she won't have any other.

If you want a very choice table currant take the White Imperial; if you want a choice red currant the Moore's Ruby and Pres. Wilder. I am almost ready to discard the Fay currant, there is no money in it. Moore's Ruby and Pres. Wilder are very prolific and will hang longer without wasting on the bush than any other currant. I prefer them as a red currant for table use and the White Imperial for a white currant. The Victoria is a grand good thing for market purposes. A fellow in Nova Scotia showed me the finest crop I ever saw. He said he made a clean \$500 on one acre of Victorias. He told me how he handled them. He told me a little trick of the trade I didn't know anything about. I said "How do you handle these currants, you have got a beautiful crop?" "Do you cut them in?" "Yes, I cut them in." "When?" "Every winter." "How much do you cut off?" "One-half the growth of wood." "Anything more?" "Yes" "What is it?" "After they get started to grow in the summer season I pinch the new shoots." "That is a new thing, I don't like that." This Victoria is a good market currant but I don't think much of it as a table currant, but if you want to ship a currant to Chicago or Milwaukee you can do so with this.

THE HOME PLACE.

By Prof. W. M. MUNSON, State College, Orono.

The home environment of our young people during the first fifteen years of life exerts a powerful influence on their future prospects. Mere sentiment will not keep the boys and girls at home. It is our duty as progressive men to proclaim in a practical manner that home life may be made attractive on the farm. It is purposed at this time to touch upon a few of the more salient points that present themselves both in making a new home and in improving the external conditions of the old.

SELECTION OF SITE.

Consider well the location of the house. Do not build a new house where the old one was simply because the barns are there, though, other things being equal, the barns should be near the house, for convenience is an important factor in the value of a farm. Healthfulness is of the first importance. Hence be sure that the location of the residence is such that perfect drainage, both soil and atmospheric, is secured. Other things being equal a southern or southeastern aspect is preferable. Make use of natural groves or scattering trees. Nothing you can plant will ever be so satisfactory as the natural forest trees. The protection of a natural shelter or windbreak is also to be considered. It takes many years to provide suitable shelter.

WALKS AND DRIVES.

It is just as easy to drive in the same place every time, to have clearly defined drives, as it is to go all over the yard. In general place a walk or a drive wherever needed, but think twice before deciding. All walks and drives should be direct. The drive for heavy teaming should lead directly to the barns and should not go nearer the house than necessary.

DRAINAGE.

The importance of good drainage for sanitary purposes and in the production of ordinary farm crops is fully recognized. But we sometimes forget that trees and grass are similar to other

plants in their requirements. Even willows do better on well drained soils than when surrounded by stagnant water. The difference between well drained and undrained soils often determines whether a plant is hardy in any given locality.

THE LAWN.

A good lawn is the most essential element of beauty in any grounds, and in these days of cheap lawn mowers there is really no excuse for not having a neat lawn in front of the humblest dwelling. It is very little more work to leave the surface of the ground smooth after the final grading about the buildings than it is to leave it rough and uneven. Arrange if possible to have a few inches of loam on the surface when the grading is completed.

The best grasses for a lawn are Kentucky Blue Grass, Rhode Island Bent, and Red Top, with a slight admixture of white clover on heavy soils. Give thorough preparation to the soil, and sow the seed very thickly—using three to five bushels per acre. Rake on the seed lightly and roll. Keep the grass closely clipped with a lawn mower during the summer. In this way only can the weeds be kept down and a thick, velvety turf formed. A very good machine may be procured for about six dollars. In the spring it is well to rake off the dead leaves and roll the ground, but the practice of burning over the lawn is not to be commended.

WHAT TO PLANT AND HOW.

The selection of trees and shrubs for planting is always perplexing. A few general principles may aid in solving the question. First of all,—do not attempt too much. Grounds that are crowded, even though the plants of themselves may be choice, have the appearance of an overdressed person.

Do not discard native plants because they are common. The Beeches, Maples and Elms, the Viburnums and Dogwoods, and the Rhododendrons and Kalmias are unsurpassed in their respective classes.

Do not invest freely in untried things. If you have enterprising and experienced neighbors, consult with them. Otherwise, correspond with some reliable nursery firm, or with some person in whose judgment you have confidence, for advice in specific instances. It is usually safer to deal directly with some reliable firm than to place your order with an agent. As a rule, you will

pay the agent fully fifty per cent more than the same goods would cost if purchased direct.

In making a selection of flowering trees and shrubs, aim to secure a succession of bloom, in order that the grounds may be attractive all summer. Among the earliest flowering hardy shrubs are *Daphne mezereum* and the *Forsythias* (of which *Forsythia Fortunii* is the best), which bloom before putting forth leaves,—usually about the first of May. Following these shrubs are the Magnolias, which will succeed in the southern part of the State, the Red Bud or Judas Tree, and the Hawthorns among small trees. Some of the best of the second early shrubs are the Azaleas, Bush Honeysuckles (*Lonicera Tartaria*), Japan Quince, Lilacs in variety, Double Flowering Plum, Flowering Almond, and the earlier flowering Spiræas—especially *Spiraea prunifolia* and *Spiraea Thunbergii*,—also the Weigelas and the Mock Orange (*Philadelphus*). In late summer we have the late Spiræas, as *Bumulda*, *Billardi*, *Cullosa*, etc.; the “Smoke Bush” (*Rhus Cotinus*), and, best of all, the hardy Hydrangea (*Hydrangea paniculata grandiflora*).

The brightness produced by bulbs and hardy perennials will well repay a small outlay in this direction. In earliest spring we have the Christmas Rose (*Helleborus nigr-r*), the Snowdrops (*Galanthus*), Crocuses and Pansies. A little later Tulips and Hyacinths appear, and these are followed by Columbines, Lily-of-the-valley and Bleeding Heart (*Dicentra*). In summer and early fall the Japan Anemone, the Golden Columbine (*aquilegia chrysanthia*), the Fox-gloves, Hollyhocks, Plantain Lily (*Funkia*) and the numerous species and varieties of true lilies, are all very satisfactory and are easy of culture.

In handling trees, be careful to keep the roots moist. A plant is a living organism, and is as truly sensitive to neglect as is an animal. A plant out of ground with roots exposed to sunlight and drying winds is as much out of place as is a fish out of water.

WHEN TO SET.

As a rule, in this climate, spring planting is advisable; but it is well to secure nursery stock in the fall if a root cellar or other convenient place for storage is available, as stock from Massachusetts or New York is likely to be too far advanced before our soil is ready to be worked. All planting should be done just as early in

the spring as possible, that the trees or shrubs may become established before the leaves put forth. Hardy herbaceous perennials, such as Phlox, Digitalis, Hollyhocks, Columbines, etc., should as a rule be planted in September. The same is true of most bulbous plants including the Crocus, Hyacinth, Lilies, Tulips, etc. The Gladiolus is usually set in the spring.

ARRANGEMENT.

The effective arrangement of trees and shrubs is often a most difficult problem. One of the first things to accomplish is the screening of out-buildings and other disagreeable objects. The best plants for that purpose are evergreens—especially those which appear best at a distance, as Norway Spruce, Austrian Pine or Arbor Vitæ (White Cedar.) It is not necessary that the planting be done in formal belts, or hedges. Irregular groups so arranged that the view is obstructed are better than formal hedges.

There should be an apparent reason for a change of the course of a walk or drive. This may be accomplished by planting a group of shrubbery at the junctions of walks and drives and at the more prominent curves.

There may properly be a border of low growing shrubbery next to the house, and it is well to plant a vine of some sort by the piazza. Nothing is better for this purpose than the common woodbine.

As a rule we desire the grounds about the house to appear larger than they really are. To accomplish this, avoid too great a variety of colors; make as few walks and drives as possible; avoid straight lines; do away with boundary fences. The "flower garden" should be a little at one side of the house rather than directly in front. Nothing adds more to the attractiveness of the place than a well kept lawn in front of the house.

The general appearance of the "Home Place" is usually a good index to the habits and characteristics of its occupants. The thoughts and tastes of a man are largely displayed in arranging his home. If the home is slovenly, the man is seldom a neat workman or a thorough business man, while neatness in the home inspires confidence.

THE UTILITY OF THE BEAUTIFUL, OR, WHY CHILDREN SHOULD BE EDUCATED IN FLOWERS.

Pomology in all its range is so closely allied to floriculture that it seems impossible to treat of one without the other. The science that deals with fruit must also include the flower, as all fruit is only the flower brought to perfection.

The botanist sees the apple in the delicate blossom as perfectly as the pomologist does in the ripened pome. As science broadens, specialists become the order of the day, a single line of work demanding the entire attention of the individual or society. Would one study thoroughly any kind of fruit, he must know it throughout its earlier stage of planthood; its habits as a flower and its development into fruit. No pomologist can fail to be a botanist. He may not have familiarized himself with the books, yet he must know the fruit he cultivates and loves.

In the early days of our Normal Schools before our Agricultural College had made itself felt as an educator, or even the agricultural and pomological societies had begun their teaching in our State, I found it difficult at first to interest, in the study of botany the young men who were fitting themselves for teachers. They met me with, "It is a girl's study," "What do I want of it?" A flower to them was an insignificant thing not worth their attention. Women have always cultivated flowers. A woman who does not love them is an anomaly. Eve, we know, devoted her whole time to the garden—being the first pomologist of whom we read. Adam probably assisted her, but men, as a rule have not been given to the cultivation of flowers, except for gain. But this, in a measure is passing away.

Decoration Day, the transition from the cruelty and barbarism of war to the peaceful mission of flowers, laid lovingly on a fallen comrade's last resting place has wrought a wonderful change. The most significant holiday in Maine to-day is Decoration Day, when men march with banners, to the beat of the drum, bearing not arms, but armfuls of flowers to decorate the graves of both friend and foe. It was my pleasure to be in the White City Decoration Day. The army hat was everywhere. The G. A. R. man interested me more than any other exhibit. I was impressed with the freshness of his uniform as though it had been ordered for the occasion,

but it may have been the bright flowers he wore that gave a roseate tinge to his entire outfit.

Arbor Day is another significant day, contemplating as it does the planting of shade and ornamental trees and seeking to create an interest in tree planting and culture which may eventually lead to the study of forestry. Our Maine forests have been unsparingly sacrificed.

I was pleased last summer to find in the town of Eustis on the Dead River, a well kept pine grove, trees straight and beautiful. It was small; highways bordered it on three sides. In the pleasant inquiries made by several individuals "Have you seen our pine grove?" I read the pride of young and old in this bit of our former glory as a Pine Tree State.

We are never too old to plant a tree. Whittier writes to a friend: "I am sorry to find that the hard winter has destroyed some handsome spruces I planted eight years ago, they had grown to be fine trees. Though rather late for me, I shall plant others in their places for I remember the advice of the old Laird of Dumfiedikes to his son Jack, 'When ye hae neathing better to do ye can be aye sticking in a tree, it'll aye be growing when ye are sleeping.'" Whittier adds, "there is an ash tree growing here that my mother planted with her own hands at three score and ten."

It was a very happy thought to incorporate Arbor Day into our school system—for whatever we would have blossom in the nation we must plant in the schools. The trees chi'dren have planted with their own hands will ever after be to them objects of love and care. Arbor Day may be made very helpful as an educator. No subject has called forth a more abundant literature, all its own, than flowers. The greatest and best of earth have sung of them, "Consider the lilies of the field how they grow."

We have no more touching picture of Robert Burns than he gives us, himself, in "To the Daisy" Seated upon his plow, which he has stopped in the furrow, to pick up the little flower he has unwittingly crushed, we hear him say:

"Wee, modest, crimson-tipped flower,
Thou's met me in an evil hour,
For I maun crush among the stoure,
Thy slender stem.
To spare thee now is past my power,
Thou bonny gem—"

A love for flowers must lead to a love for good literature. Bryant, Longfellow, Whittier, Emerson, Wordsworth and Tennyson are all apostles of Nature, and many whose names are unknown to fame have bequeathed to us literary gems which must always be associated with the flowers.

The legend of the blue-eyed forget-me-not carries its own moral lesson with it.

"When to the flowers so beautiful,
The Father gave a name,
Bacame a little blue-eyed one—
All timidly it came
And standing at the Father's feet,
And gazing in His face,
It said, in low and trembling tones,
And with a modest grace,
'Dear God, the name Thou gavest me,
Alas! I have forgot.'
The Father kindly looked Him down
And said, 'Forget-me-not—'"

The old red schoolhouse over which so much sentiment has been wasted was never a thing of beauty. It was usually located in an out of the way place, on land not worth cultivation, cheaply constructed, to say nothing of its ornamentation.

We sigh when we think even of what our tastes might have been had our youthful educational environments been more suggestive of beauty.

Miss May's picture of the transition of the old red schoolhouse we trust does not apply to all.

"I remember the old red schoolhouse
On the other side of the stream,
Where we went to school together, Will,
When life was like a dream.

I went to the dear old schoolhouse,
Only the other day,
And I sat on the steps where we jumped the rope,
But I did not care to stay.

The blinds were closed, the glass was gone,
And would you believe it, Will!
They were turning round where our wits were ground,
The wheels of a cider mill."

It certainly is no advance in our civilization to turn the schoolhouse into a cider mill. It may be a more appropriate use for the

building. Under the wise management of the Pomological Society we trust cider-mills will not be a necessity.

So much depends upon the tastes acquired in the formative period of life, it should be the purpose of our educational system to strengthen the natural taste in all that is pure and elevating and to cultivate a true love for symmetry, proportion and beauty.

On the taste of the individual, depend the habits, and from the habits develops the character. The mission of the true educator is to unfold the crumpled tissue of the child mind and so impress it with things pure and beautiful that there shall be no room for sensuality, intemperance and other vices. Moral elevation must result from familiarity with beauty in nature and art.

The time seems ripe in our State for some aggressive movement in the line of rural decorations. The coming year marks a great change in the ownership of school property. The old district system is to be superseded by the town. It would seem a very proper time to consider the improvement and the ornamentation of our rural schoolhouses. The movement should be an educational one. Some general purpose, something in which all our interests center, something that shall touch us all, something that shall make every spot set apart for the education of the children of the State a delight and a joy, is of more importance to us as a people than tariff reform, demonetization of silver, or the annexation of the Hawaiian Islands. It is necessary that the movement be general, one that shall extend to every little schoolhouse of the State. The cities and larger villages, with commendable pride, are building for school purposes structures that are models of convenience and architectural beauty. These, with their well-kept lawns and ample playgrounds, are among the most ornamental buildings, wherever reared.

This work is foreshadowed in the movement recently made, to place our national flag upon every schoolhouse of the land. Beside unifying us as a people it has inspired every child with a new and fervid love of native land before unknown. No district so small or poor that has not hung out its flag when its patriotism was stirred.

The tendency of our educational system as a State should be, to inspire every child with a love of our own dear Maine, as the freest, purest, most beautiful spot of all the earth. Blended with the love of our national flag should be the love and pride in our State

emblem, with its pine tree emblazoned on a shield upheld by our sturdy pillars—the sailor and the farmer. Its “Dirigo” and star should have a meaning that should make even the heart of the child glow with pride. I recently heard a returned missionary who had been journeying around the world for the past five years, say that she had been asked since her return, “What sight impressed you most?”

She said, “I tried to recall the scenes that had made the greatest impression upon me, and there came before me in thought the time when I stood in the presence of the greatest mountain on the earth. I looked at the eternal snows of that great mountain peak and I was lost in wonder and admiration of the grandeur of that great mountain and it seemed to me that nothing in the world had ever so spoken to my soul of God and His greatness. But I passed on to view some of the marvels of the handiwork of man and I stood in that wonderful spot the, Laj Mahal, and again I was lost in wonder over the spirit of man. But I want to tell in all this vast journey what has stirred my heart most. It was last Christmas morning on the shores of a heathen land, my mail had not come to me for nine weeks. The first letter I opened was from home—it contained—this, and she held up to the audience a little flag. At the sight of it my heart was stirred as nothing else had ever done, and I said then as now:

“ ‘There is a land on earth supremely blest,
A dearer, sweeter spot than all the rest,
And thou shalt know where’er thy footsteps roam.
That land, that country, and that spot thy home.’ ”

Our fathers and mothers builded well in laying the foundations of our social, political, and religious liberty.

We have now our Memorial Day, our Arbor Day, our flags and our fine schoolhouses in the cities and larger towns. We need better schoolhouses in the country, whose preservation and ornamentation shall be the pride of every man, woman and child in their vicinity. It has occurred to me that this Pomological Society is in a condition to foster this work by encouraging village and rural improvement societies having for their object the improvement and ornamentation of streets, school grounds, roadways, cemeteries and any other public grounds by planting, and cultivating trees, by locating and protecting grass plots, lawns and boulevards, and generally doing whatever may tend to the improvement and adornment of the place.

The decoration of our school grounds need not be burdensome, in the way of labor or expense. Once create the taste, and it will be done as easily as the flag was procured. The children and teachers must be made the special guardians of every tree and plant. Our own native trees and flowers form the most beautiful setting for our rural schoolhouses. What more beautiful floral ornaments than our native ferns? We may not be able to sing:

“A rare old plant is *our* ivy green
Creeping where no life is seen.”

The ivy is very Englishy. Though flourishing well in Canada, it does not thrive in our climate; but we may well sing of the beauty of our native Virginia creeper, or, as it is commonly known, the woodbine. Our native Clematis is another trailing plant well adapted to ornamental purposes. Both of these plants take kindly to cultivation, and in a few years transform ugly, uninviting places into marvels of beauty.

A well located, a well kept, small country schoolhouse, with its ornamentation of lawns, trees and flowers, is more than poetry, more than painting. An encouraging sign of the times is the interest shown in the appearance of railroad stations. The Maine Central has done much to beautify its stations and ground, making them desirable waiting places for travellers and ornamental wherever located. I wrote the General Manager, Payson Tucker, asking him to give me a brief outline of his system. In reply, he says, “We have adopted a style of architecture for our station buildings which is uniformly used. We have also a standard set of colors to be used in painting them. We expect our employes to keep our property in a neat and attractive condition, and I am happy to say that they heartily co-operate with us and do all in their power to put and keep our property in good shape.”

There is, I believe, a pleasant rivalry among the station agents. The road furnishing the trees, shrubs and flowers and offering a prize for the most pleasing effect produced. Such a system of ornamentation for our rural school grounds might be made effective either by the town or some society interested. Among the most beautiful of all the exhibits at the World’s Fair was that of Horticultural Hall. One could but feel that he would like to eat his way through the pomological display and then wander at leisure amidst acres of flowers. The flowers, what pen can describe them. One Azalia in the French department, yards in circumference, with its

solid mass of pure white flowers was a thing of beauty, a joy forever to all who beheld it.

Flowers, flowers everywhere; out of place, nowhere. The California knew that his fruit display was rendered much more attractive by the few bright plants he so artistically placed among his oranges. How cold and barren even the great exhibition would have been without flowers! As I looked at that formidable engine of war, the enormous Krupp gun, surrounded on all sides by missiles and weapons of warfare—the entire building being filled with them, I was rested to turn from these to the fountains and flowers the artistic Germans knew so well how to place effectively, even among guns and bomb-shells.

Columbia can no longer hesitate over her emblems. Corn, our golden maize was everywhere—booths, pavilions, arches, towers made of corn, whole rooms decorated with it, entire buildings filled with it. Corn was king. As a State we need no other floral emblem than our pine tree, this every child should be taught to love and honor. For the nation let us

“Blazon Columbia’s emblem,
The bounteous, golden corn.”

* * * * *

“The rose may bloom for England,
The lily for France unfold;
Ireland may honor the shamrock,
Scotland her thistle bold;
But the shield of the Great Republic,
The glory of the West,
Shall bear a stalk of tasseled corn—
Of all our wealth the best!
The arbutus and the goldenrod
The heart of the North may cheer;
And the mountain laurel for Maryland,
Its royal clusters rear;
And jessamine and magnolia
The crest of the South adorn;
But the wide Republic’s emblem,
Is the beauteous golden corn.”

The thoughts I would leave with you are these: The study of flowers should be begun in childhood. Such study is of practical value to the individual, to the community, to the nation; to the individual in the development of pure tastes, right habits and ele-

vated character ; to the community by leading to the preservation and beautifying of public grounds where they exist and by creating a demand for them where they have not been provided for in the laying out of the town ; to the nation in developing leaders whose lives have been ennobled, by contact with the beautiful and who by such culture have fitted for a more thorough, scientific work in agriculture, forestry, pomology and all other agrarian pursuits ; leaders capable of taking the people back to the great heart of nature, to God.

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